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EBI Logger System

User's Manual

for the WINLOG 2000 Software

Programming and readout software

for EBI data loggers of the series

EBI-2

EBI-3

EBI-85 X

EBI-125 X

Release 1.21

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Preface

Congratulations on the purchase of the EBI data logger system.

First, we would like to inform you that the *WINLOG 2000* software is available in different versions, all based on the Standard version (WINLOG 2000 - S). For more information please go to chapter 1.3.

In this manual's structure the functions of the Standard software version are explained first. Since all of these functions are also available in the higher versions of *WINLOG 2000*, you can always refer to the previous chapters.

The additional functions of the Professional version (WINLOG 2000 - P) are described in chapter 9. Chapter 10 deals with the BUS version (WINLOG 2000 - B), and Chapter 11 explains the 21 CFR Part 11 version (WINLOG 2000 - V).

Please read this manual carefully. Here you'll find answers to most questions which may arise during your work with *WINLOG 2000*. Also keep in mind that there is an online help function available within the software, which you can call up at any time by pressing the F1 key.

The main advantages of the *WINLOG 2000* software are:

- One software for all EBI-xx-A, EBI-2, and EBI-3 logger models
- Updates and patches available through the internet
- Up to 32 curves can be displayed simultaneously
- Intuitive and self-explanatory operation
- Different versions for different applications

Notes for this manual

Symbols and writing conventions

For a better orientation the notes, tips, etc. are marked as follows:

Helpful notes, information and examples are marked with this symbol. The paragraphs marked this way are useful for the easier understanding and the correct handling of the EBI logger system.

Important functions and recommendations are marked with this symbol.

The paragraphs marked this way must absolutely be considered and observed, in order to ensure the proper functioning of the logger system.

Disregarding these paragraphs can cause data loss!!!

Bold print Important notes or statements are printed in bold letters, in order to point out their importance.

Bold italic print All names of software commands, buttons, dialogs, option and text boxes are printed in bold italics.

Keyboard	Keys of the keyboard are represented as framed capitals. When you are asked to press a key, this will be represented in this way: CRTL (for example). If several keys must be pressed simultaneously, this will be represented by a plus-sign between the keys, like for instance: CRTL + K. Consequently, this means that while keeping the CRTL key pressed, the K key must also be pressed.
Mouse-keys:	Following strings are used to visualize mouse actions: <LMC> for a left mouse click; <RMC> for a right mouse click; <DMC> for a double click with the left mouse key.
ebro	If this logo appears in the manual, it refers to the company ***ebro*** Electronic GmbH & Co. KG. The address and telephone number are indicated on the front page of this manual.
info@ebro.de	Internet or E-mail addresses are indicated by underlined text.

- text
- text
- text

A paragraph containing these enumeration marks is an instruction which must be executed in this order.

1 General information on the EBI data logger system

1.1 The EBI data logger system

The EBI data logger system consists of at least one data logger, a connecting device (interface) or a connector cable, and the software *WINLOG 2000*.

WINLOG 2000 works with all loggers of the model families EBI- 85A, EBI-125A, EBI-2 and EBI-3. It automatically detects the type of the connected logger, and adapts to its specifications. For instance, the axes in the diagrams will automatically bear the correct units.

Please be aware that *WINLOG 2000* will not work with data loggers of the discontinued series EBI 85 and EBI 125 (without the appendix "A"). For these loggers, you will need to use one of the previous EBRO software packages like *WINLOG 1.5 E, WINFWERT 1.5 E, WINDRUCK 1.5 E, WINTRUCK 1.5 E, WINBUS 1.5 E* or *WINFEUCHTE 1.5 E*.

Mainly, the EBI loggers are divided in two basic types, which differ in the method of data exchange.

The so-called standard loggers always need an interface to communicate with the computer.

The so-called RS-232 loggers can connect directly to the computer through a data cable.

1.1.1 Standard loggers

This name describes the round stainless steel loggers of the EBI-85 A and EBI-125 A series. These loggers require an interface for programming and reading (see Chapter 3.1).

Fig. 1 Standard logger EBI-85 A

Another kind of standard logger is the BUS logger (for wetrooms or dry-rooms). These loggers can be interconnected through a two-wire cable, thus forming a so-called BUS system. BUS systems can be controlled using the *WINLOG 2000 BUS* software and an interface (see Chapter 10).

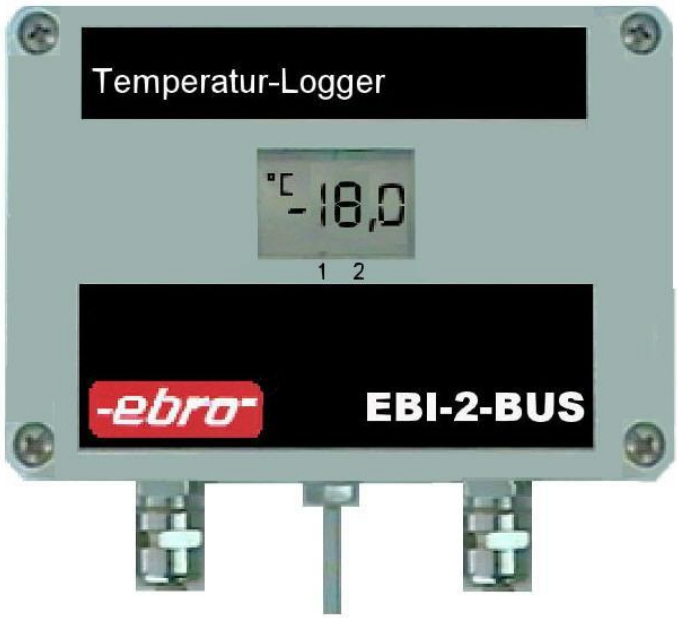


Fig. 2 BUS logger for wetroom

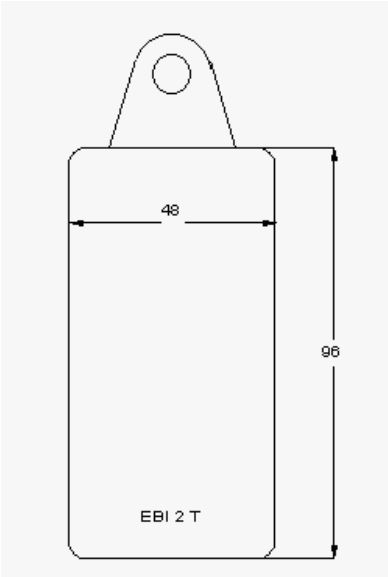


Fig. 3 BUS logger for dryroom

1.1.2 RS 232 loggers

These loggers have a rectangular plastic housing. Depending on the type, the housing can be either plain or metallized.

Fig. 4 RS 232 logger

As a further external characteristic, these loggers have a 9-hole or 15-hole SUB-D connector on their backside. A special data cable can be attached to this socket to connect these loggers directly (without an interface) to a PC. This connection socket is common to all loggers of the EBI-2 / EBI-3 series.

In Chapter 16 (page 360ff.) you can find the main technical specifications of the different logger types.

Data logger functional structure

The data logger is built up as follows, independently of the type:

A microprocessor with the necessary peripheral equipment is supplied with energy from a built-in lithium battery. Due to this, the logger is completely autonomous from the environment. An internal processor firmware controls the microprocessor and takes the necessary actions. The values measured by the logger's internal or external sensors are recorded and stored in an EEPROM memory.

Up to 2 x 15 user-defined text lines can be stored in each EBI logger. Also, you can set two limit values per channel for control purposes.

The measurement data stored in the logger memory can be transferred to a PC by connection cable or interface. There they can be saved to a harddisk or a floppy/CD-R.

1.2 The WINLOG 2000 software

This software was developped by ***ebro*** in order to make the readout and programming of the EBI data loggers as easy as possible for you.

You only need one software for all purposes.

All specified ***ebro*** data loggers can be administrated with this software, no matter which purpose they are meant for (temperature, truck, cold storage house, pressure, humidity, accompanying goods, high temperature, voltage or amperage input).

In other words: you can program and read all models of the families:

- EBI-85 A
- EBI-125 A
- EBI-2
- EBI-3

1.3 The various software versions

WINLOG 2000 is available in 4 versions with different levels of functionality:

- **WINLOG 2000-S** (S**tandard version) -** for everyday use
  - for everyday duties such as graphic and numeric representations of the measured values of temperature/pressure/humidity etc.
  - self-explanatory, can be operated immediately, with online help

- **WINLOG 2000-P (Professional version) -** for professional use
  - calculation of various parameters based on the existing measured values (F-value, PE-value etc.)
  - formula editor
  - document management with Windows Explorer look-and-feel

- **WINLOG 2000-B (BUS version) -** for your networked BUS loggers
  - automatic administration of all measuring points
  - automatic storage of the data on a computer
  - automatic alarm when limits are exceeded

- **WINLOG 2000-V (21 CFR Part 11 version) -** for the pharmaceutical industry
  - electronic signature
  - Audit Trail
  - enhanced user management

With *WINLOG 2000*, you buy only the software you need. Since all versions are already contained on your setup CD-ROM, you can easily upgrade to a higher version when you require it. All you need is a new registration key you can obtain from ***ebro***.

Our products are under continuous development. Therefore, the latest hardware or software implementations may not be documented in this manual as yet.

Last minute changes diferring from the descriptions in this manual are documented in the README.TXT file on the setup CD-ROM. Please check your CD-ROM for this file and consult it before use.

2 Requirements

2.1 Requirements regarding the computer

Minimal requirements

- Pentium 350 MHz CPU
- 64 MB RAM
- VGA graphic card
- Monitor
- Serial interface (RS 232 C)
- Mouse
- CD-ROM drive
- One of the following operating systems must be installed on the computer:
  Windows 9.x
  Windows Me[1]
  Windows NT[2] **4.0** with Service Pack 4 or higher
  Windows 2000[3]
  Windows XP[4]
- Hard disk with 100 Mbytes minimum free capacity. The software requires about 30 MB. Depending on your purposes, you may need to save a high amount of logger data on your disk. The following table (Tab. 1) shows the hard disk space required for one saved document. Please keep in mind that most probably you will need to save more than just one file.

[1] Windows Me is a registered trademark of Microsoft Corporation

[2] Windows NT is a registered trademark of Microsoft Corporation

[3] Windows 2000 is a registered trademark of Microsoft Corporation

[4] Windows XP is a registered trademark of Microsoft Corporation

Logger series	Channels	Measurement cycles	Required space
EBI 85A or 125A	1	18,000	about 360 kBytes
EBI 2	1	40,000	about 800 kBytes
EBI 2	2	2 x 30,000	about 600 kBytes per channel
EBI 3	1	3,000	about 70 kBytes

Tab. 1

- optional: an installed Windows printer. A color printer is preferrable if you require true color printouts of the measurement values diagrams
- optional for truck and threshold loggers: handheld printer for protocol printouts (***ebro*** model EBI-PD)

Recommended equipment:

- Pentium II CPU with 350 MHz or higher
- 32 MB RAM or higher
- SVGA graphic card and monitor (1024 x 768 pixels, 65K colors)
- 17“ monitor
- Serial interface (RS 232 C)
- Mouse
- CD-ROM drive
- **Windows 95 B** (Service Release 2) or higher
  Windows 98
  Windows Me
  Windows NT 4.0 with Service Pack 4 or higher
  Windows 2000
  Windows XP
- Hard disk with 100 Mbytes minimum free memory capacity
- optional: a black-and-white or color printer (laser or bubble-jet)
- optional for truck and limit value loggers: Handheld printer for protocol printouts (***ebro*** type: EBI-PD)

2.2 Requirements regarding the EBI data logger system

Minimum requirements:

- Data logger
- Interface with corresponding power supply
- Data cable

2.3 Requirements regarding the user

The user(s) of this software should have at least a basic knowledge of the Microsoft Windows operating system installed on the computer. The basic knowledge should cover:

- Starting and shutting off the computer
- Knowledge of the basic functions of the operating system
- Overview of the different storage drives
- Checking and editing the computer time and date (internal real-time clock)
- Using the Windows Explorer file manager
- Installation of user software
- Starting programs
- Creation of folders (directories)
- Saving files
- Opening and closing files

3 Hardware installation

The installation of the BUS interface is described in chapter 10.3.

3.1 Connecting device for data loggers with standard interface (EBI-85 A / EBI-125 A)

In the course of time, different types of interfaces have been developed. Currently, there are two variants. Identify your interface and install it as described hereafter (chapters 3.1.1 to 3.2).

The serial ports of the computer are either directly labeled (COM 1, 2 ..) or can be identified using the manual of the PC. It is recommended you use COM1 or COM2 to connect the interface cable. You will need the EBI-Int-K9 cable for a 9-pin port or, the EBI-Int-K25 cable for a 25-pin port.

3.1.1 Gray desktop case (EBI-AE-S) with external power supply

Fig. 5 Interface EBI-AE-S

- Connect the type **EBI-AE-S** interface with a free serial port (COM1, COM2, etc.) of the computer using the cables EBI-Int-K9 (for a 9-pin connector) or EBI-Int-K25 (for a 25-pin connector) and secure the connection with the two connector screws using a small screwdriver.
- The 9-pin end of the data cable must always be connected to the interface. In order to prevent an inadvertent disconnection, please also tighten the two screws of the 9-pin socket of the data cable with a screwdriver.
- Please connect the included desktop power supply with the interface using the power adaptor cable. Carefully insert the 5-pole connector of this cable into the corresponding socket of the interface and lock it by fastening the coupling ring of this connector.
- Make sure that your mains voltage corresponds to the inscription on the type plate of the power supply (e.g. 230 V). Now plug the mains cable of the power supply into an earthed 230 V socket.

3.1.2 White desktop case (EBI-AE 2000 with built-in 230 V power supply)

Fig. 6 Interface EBI-AE 2000

This interface enables you to connect standard and RS 232 loggers.

- If you are using this **EBI-AE 2000** interface type, make sure that the mains voltage indicated on the backside of the interface is identical to your actual mains voltage.
- Connect the mains line of the interface to an earthed socket.

Connect the interface socket on the backside of the device with a free serial interface (COM1, COM2, etc.) of the computer, using either the EBI-INT-K9 or the EBI-INT-K25 cable included in the package.

3.2 Connection cable for data loggers with an RS 232 interface (EBI-2 and EBI-3)

If your data logger shows a 9-hole socket on the backside, you have a logger with an RS232 interface.

In this case, you must connect the data logger to a serial interface of the PC via the RSE 232 cable (9-hole socket / 9-pin connector). To connect this cable to a 25-pin COM interface, you will need to use the 9/25-pin adaptor included in the delivery.

In order to prevent mix-ups of the data cables, each of them carries its type designation on the connectors.

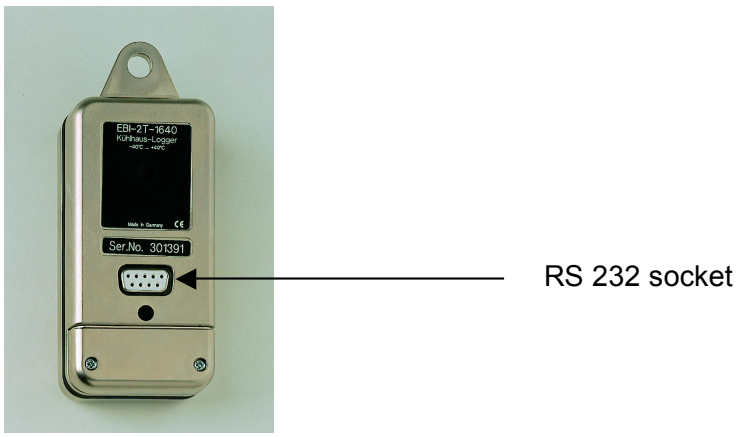


Fig. 7 RS232-socket

3.3 Printer

In order to make hard-copies of the measured values represented in *WINLOG 2000*, a printer must be installed on your PC. Please verify this by clicking **Start - Settings - Printers**. You should see at least one printing device in the appearing list. If there is no printer installed, you will first need to connect and install a printer to your system.

Please follow the instructions of your printer's manual during the installation of the printer drivers and during the operation.

4 Software installation

The user software is shipped on a CD-ROM, together with the logger system.

4.1 General Tips

You may find a leaflet called INFORMATION inside of this manual.

Please read this leaflet, since it contains the latest information on the software or hardware and possible changes to the printed manual.

4.2 Software installation

To install *WINLOG 2000*, start your computer and wait until Windows is fully loaded. Please don't start any other applications on your computer before or during *WINLOG 2000* setup.

Insert your *WINLOG 2000* CD-ROM into the drive. Close the drive tray.

4.2.1 Automatic start of installation

The installation program starts automatically if this feature is activated in your Windows settings. Following picture will appear on the screen.

Fig. 8 Setup: Introductory mask

Click with <LMC> on ***INSTALL WINLOG 2000***.

Select your setup language in the following menu and <LMC> on ***OK*** to continue.

4.2.2 Manual start of installation

If the Autorun function of the CD-ROM drive is deactivated in your Windows settings, you will have to start the software setup manually.

Click with <LMC> on the ***Start*** button on the Windows task bar, and then on ***Execute***. The following figure will appear:

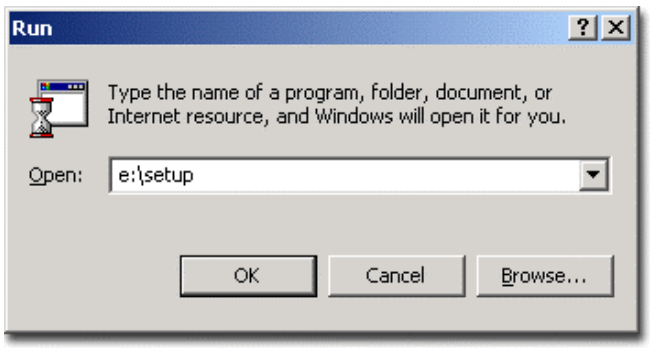


Fig. 9 Setup: Execute program

Enter ***e:\setup*** in the text line, “e” being the letter of your CD-ROM drive. Change the drive letter according to your computer’s configuration. <LMC> on ***OK***.

Select your language from the following list and <LMC> on ***OK*** to continue.

Fig. 10 Setup: Language for installation

For the moment, you can select between German and English. The setup program now opens the installation program.

The installation program (Install Shield) prepares the installation (next figure).

InstallShield Wizard
EBI Winlog 2.0 Setup is preparing the InstallShield® Wizard, which will guide you through the rest of the setup process. Please wait.
Cancel

Fig. 11 Setup: InstallShield

First, a welcome screen appears:

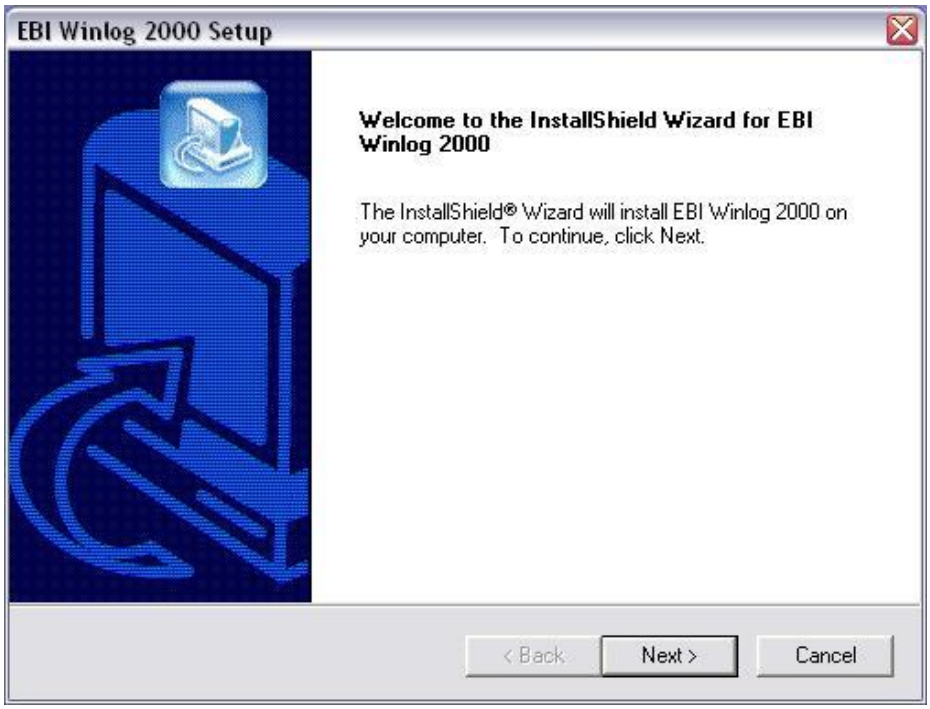

EBI Winlog 2000 Setup
Welcome to the InstallShield Wizard for EBI Winlog 2000
The InstallShield® Wizard will install EBI Winlog 2000 on your computer. To continue, click Next.
< Back
Next >
Cancel

Fig. 12 Setup: Welcome

To continue with the installation, click on the ***Next*** button.

If you click on the ***Cancel*** button, you will get the following screen:

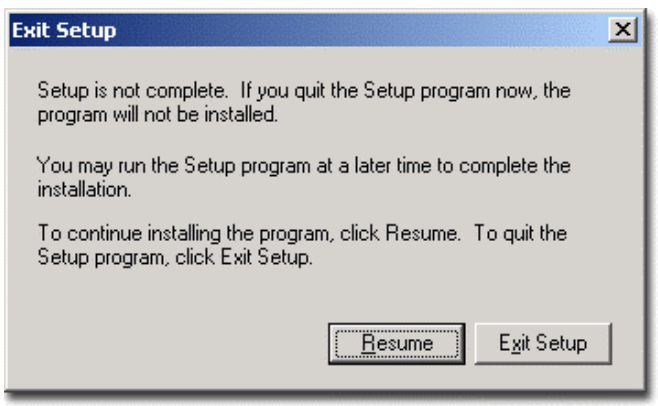

Exit Setup
Setup is not complete. If you quit the Setup program now, the program will not be installed.
You may run the Setup program at a later time to complete the installation.
To continue installing the program, click Resume. To quit the Setup program, click Exit Setup.
Resume
Exit Setup

Fig. 13 Setup: Exit

If you click on the ***Resume*** button, the setup procedure is continued.

A click on the ***Exit Setup*** button aborts the installation.

After clicking on ***Next >*** the License Agreement is displayed. This agreement can also be found in chapter 13 of this manual.

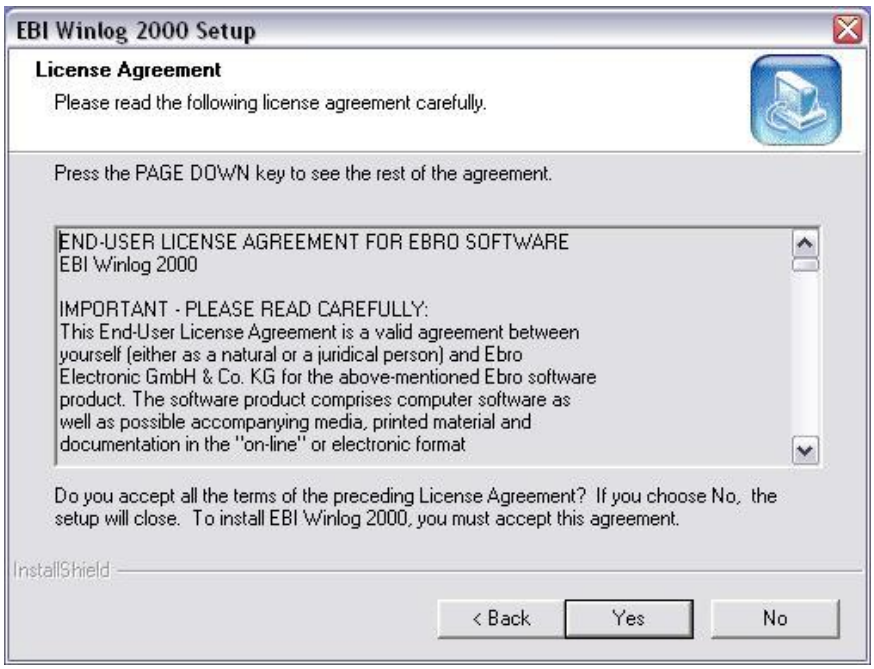

EBI Winlog 2000 Setup
License Agreement
Please read the following license agreement carefully.
Press the PAGE DOWN key to see the rest of the agreement.
END-USER LICENSE AGREEMENT FOR EBRO SOFTWARE
EBI Winlog 2000
IMPORTANT - PLEASE READ CAREFULLY:
This End-User License Agreement is a valid agreement between yourself (either as a natural or a juridical person) and Ebro Electronic GmbH & Co. KG for the above-mentioned Ebro software product. The software product comprises computer software as well as possible accompanying media, printed material and documentation in the "on-line" or electronic format
Do you accept all the terms of the preceding License Agreement? If you choose No, the setup will close. To install EBI Winlog 2000, you must accept this agreement.
InstallShield
< Back
Yes
No

Fig. 14 Setup: License Agreement

On the next screen you will be shown the administrator password that is needed for the first start of *WINLOG 2000* (all versions except the Standard version require a password identification).

You can change this password or setup new passwords and access rights for other users. Please see chapter 9.3.1 for further details.

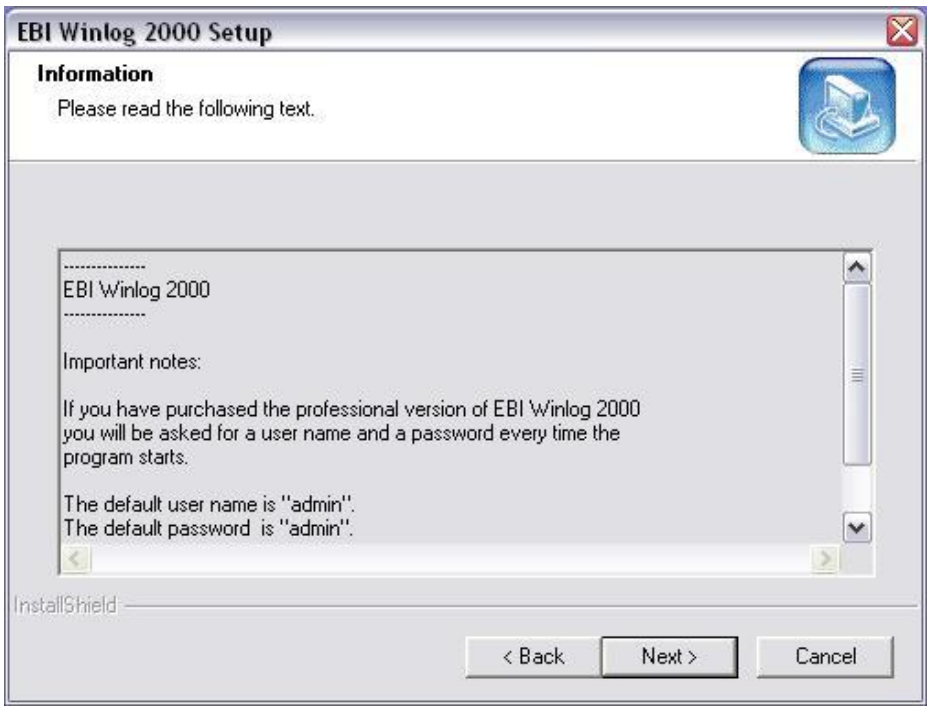

EBI Winlog 2000 Setup
Information
Please read the following text.
EBI Winlog 2000
Important notes:
If you have purchased the professional version of EBI Winlog 2000 you will be asked for a user name and a password every time the program starts.
The default user name is "admin".
The default password is "admin".
InstallShield
< Back
Next >
Cancel

Fig. 15 Setup: Password

Now fill in your user information in the following mask.

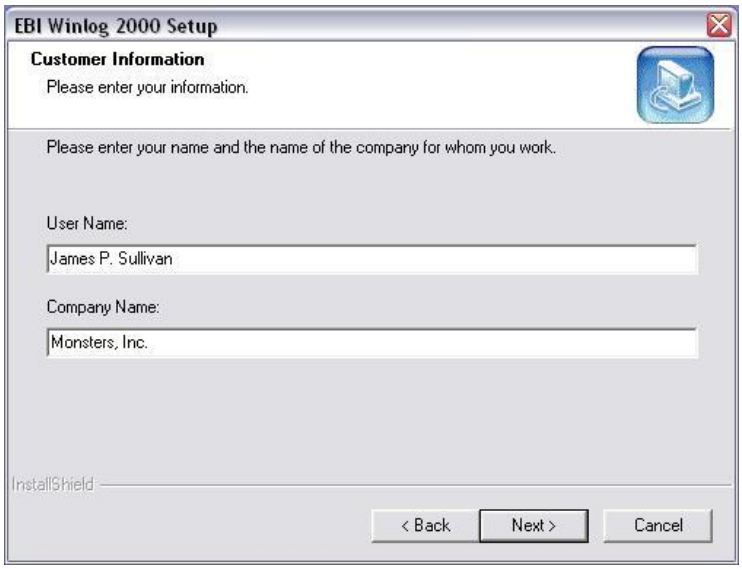


Fig. 16 Setup: User data

Then, you can determine the installation path for *WINLOG* 2000. You can either accept the default path (*C:\Program Files\Ebro Elektronik\EBI Winlog 2000*) or select another path by clicking the ***Browse***.... button. If you change the default path, it is recommended that you remember or write down the new path for later identification of the location of the program modules.

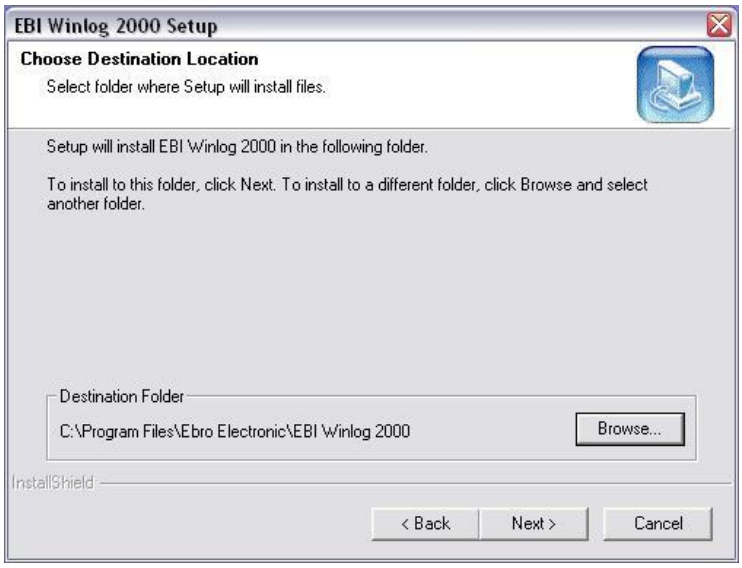

EBI Winlog 2000 Setup
Choose Destination Location
Select folder where Setup will install files.
Setup will install EBI Winlog 2000 in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder
C:\Program Files\Ebro Electronic\EBI Winlog 2000
Browse...
InstallShield
< Back
Next >
Cancel

Fig. 17 Setup: Path for program

In the following mask, the setup type must be determined. It's the Standard type. Please note: "Standard" here refers only to the type of setup procedure, not to the Standard software version (*WINLOG 2000-S*)!

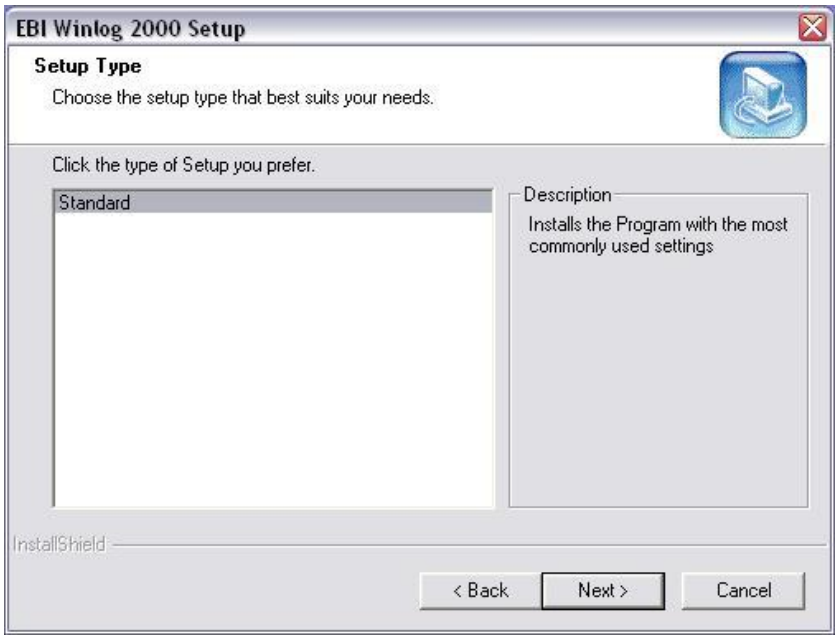


Fig. 18 Setup: Standard installation

Now you can determine or select the program folder name.

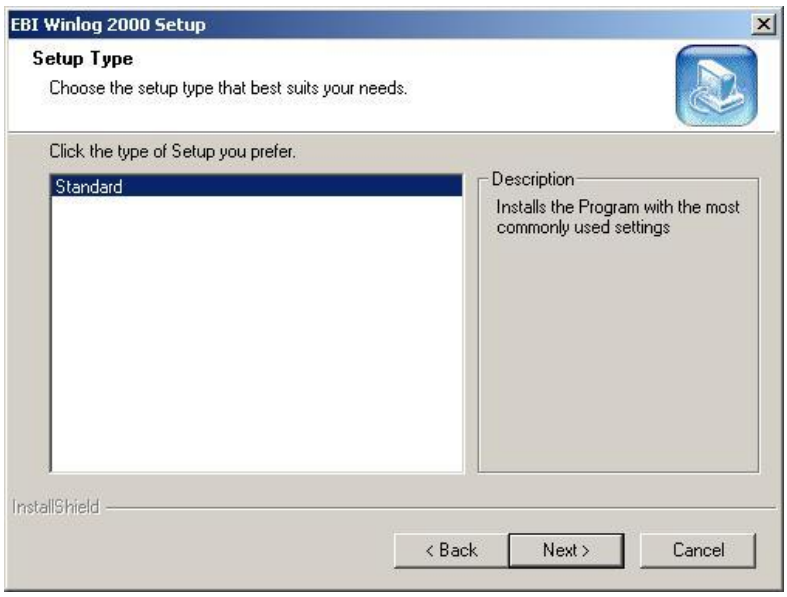


Fig. 19 Setup: Program folder

After a <LMC> on ***OK***, files are automatically copied to your PC.

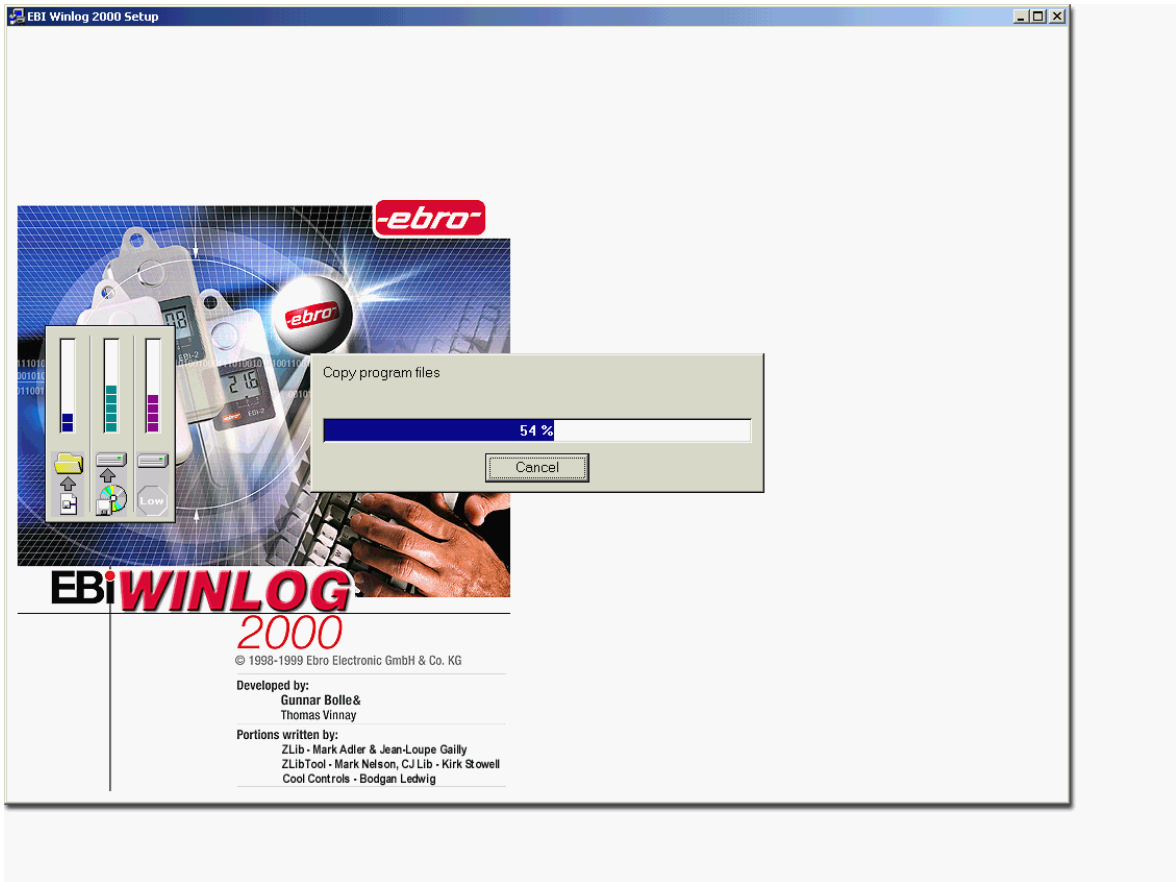


Fig. 20 Setup: Bargraph for installation progress

First, the DCOM 95 package (or DCOM 98 for Windows 98) and the some parts of the Microsoft[5] Internet Explorer are installed. These files are required for the correct function of *WINLOG 2000*.

You will be asked if you want Internet Explorer to be installed. It is recommended that you accept this by clicking the ***YES*** button. Please only click ***NO*** if you are positive that you have Microsoft Internet Explorer in a version higher than 4.01 installed and working. Otherwise you may have difficulties using the Help file later.

[5] Microsoft is a registered trade mark

Question
EBI Winlog 2000 requires Internet Explorer version 4.01 or higher.
Do you want to install Internet Explorer now ? (recommended)
Please note: If you do not install IE now, you may experience difficulties when trying to use EBI Winlog 2000.
Yes
No

Fig. 21 Setup: Installation of Internet Explorer

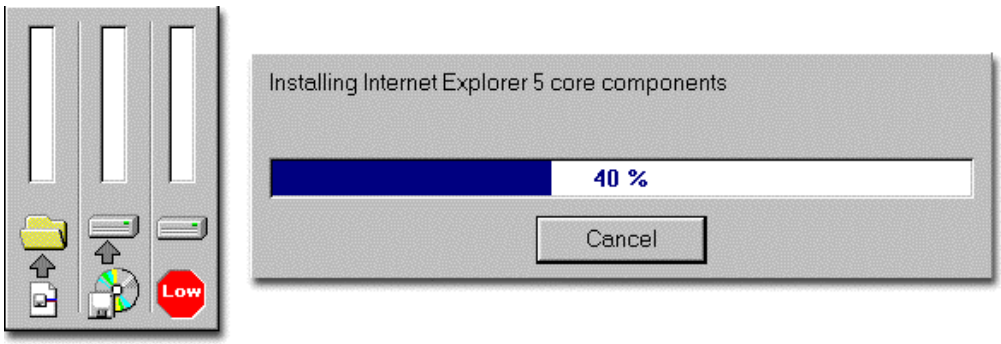


Fig. 22 Setup: Installation of the Internet Explorer core

When this is finished, the computer must be restarted, as stated by the message which appears now.

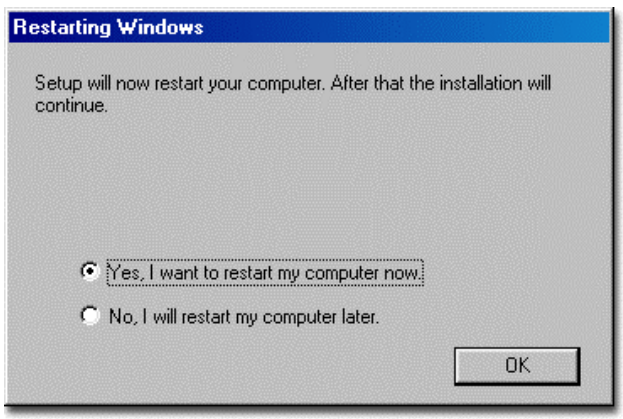

Restarting Windows
Setup will now restart your computer. After that the installation will continue.
Yes, I want to restart my computer now.
No, I will restart my computer later.
OK

Fig. 23 Setup: Restart of PC

Confirm with <LMC> on ***Yes, I want to restart my computer now*** and then ***OK***. The computer runs itself down and also restarts automatically.

I you choose ***No, I will restart my computer later***, the installation will be aborted for now and will resume on the next start of Windows.

After reboot, the installation language screen ("*Fig. 10 Setup: Language for installation*") reappears and the installation procedure can be continued by <LMC> on ***OK***.

With a click on ***Cancel***, the installation is aborted.

A successful installation is signaled by the following message:

EBI Winlog 2000 Setup
InstallShield Wizard Complete
Setup has completed the installation of EBI Winlog 2000.
You can run EBI Winlog 2000 by double-clicking its symbol on the desktop.
< Back
Finish
Cancel

Fig. 24 Setup: Successful installation

If you install *WINLOG 2000* under Windows 2000 or XP, the installation of DCOM 9X and Internet Explorer and the rebooting of the computer will not be required.

4.3 Software configuration

These first steps must be carried out only once after the installation.

Start *WINLOG 2000* with <DMC> on the "*EBI WINLOG 2000*" icon generated during the installation.

Fig. 25 Configuration: Icon of WINLOG 2000

4.3.1 Language selection

First, the following screen (always in English language) will ask you to select the working language for *WINLOG 2000*:

Fig. 26 Configuration: Selection of language

At this moment, following languages are available: German and English.

Confirm your choice with <LMC> on ***OK***.

4.3.2 Selection of the serial interface

After selecting the language, you will receive a request as shown in the following figure:

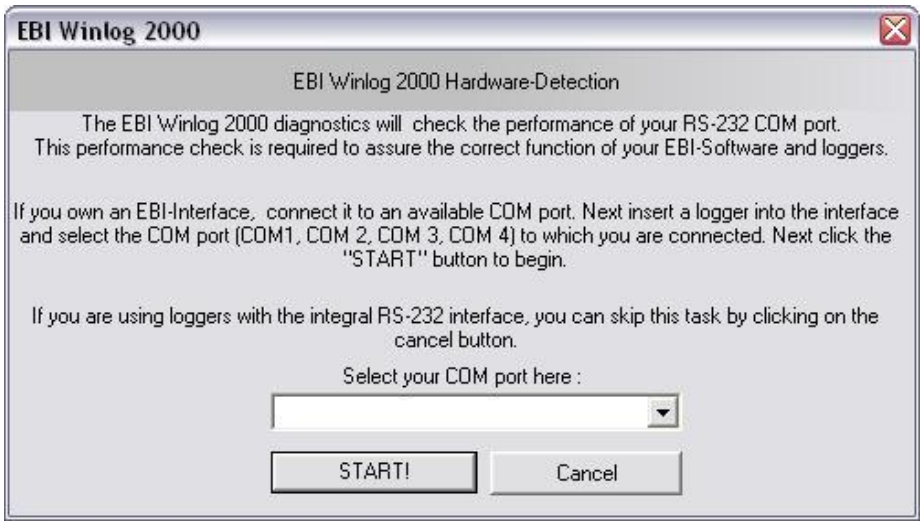

EBI Winlog 2000
EBI Winlog 2000 Hardware-Detection
The EBI Winlog 2000 diagnostics will check the performance of your RS-232 COM port.
This performance check is required to assure the correct function of your EBI-Software and loggers.
If you own an EBI-Interface, connect it to an available COM port. Next insert a logger into the interface and select the COM port (COM1, COM 2, COM 3, COM 4) to which you are connected. Next click the "START" button to begin.
If you are using loggers with the integral RS-232 interface, you can skip this task by clicking on the cancel button.
Select your COM port here :
START!
Cancel

Fig. 27 Configuration: Serial interface

Depending of logger type you are going to use must click on ***START!*** or ***Cancel*** to continue with the configuration.

See details in chapters 4.3.2.1 and 4.3.2.2.

4.3.2.1 Using EBI-2 and EBI-3 loggers exclusively

If you are going to use only EBI-2 or EBI-3 loggers click the ***Cancel*** button in "*Fig. 27 Configuration: Serial interface*".

After this, you will have to answer following question:

Fig. 28 Configuration: RS 232

Click ***Yes***.

4.3.2.2 Using EBI-85A and EBI-125A loggers

If you **only** or **also** have EBI-85A or EBI-125A loggers, you must now connect your interface with an inserted logger to an available COM port of the computer (see chapter 3 for more details).

Click and select the correct interface from the list and confirm your choice in "*Fig. 27 Configuration: Serial interface*" with ***START!*** .

If the interface and the connection to the logger are working, you will receive the following message:

Fig. 29 Configuration: COM Port ok

If you click with <LMC> to ***OK*** your configuration is done.

If you get error messages during installation have a look at chapter 12.1.2, where the messages are explained.

The COM interface doesn't need to be configured. *WINLOG 2000* sets the parameters automatically at each start of the software.

If you click on ***START!*** without previously selecting an interface, you will receive following message:

Select the correct interface an click ***START!*** again.

Please make sure that you select the interface with a logger connected to it. If nothing is connected, you will receive following message:

ebi20
An der von Ihnen gewählten Schnittstelle befindet sich kein Interface mit Logger, oder der Logge antwortet nicht.
OK

In this case, you must connect a logger with interface and repeat the procedure.

You can also cancel the initialization of the interface by clicking *CANCEL.*

4.3.3 Entering your company data

You can enter your company data in the following mask.

Please note that this information will appear later in your loggers, printouts of measured values and in reports.

Fig. 30 Configuration: Data of your company

Please fill in all information now - this information can not be changed later. You have 19 characters available in each line.

Confirm your entered data with <LMC> on ***OK***.

4.3.4 Converting old EBI files into new format

If you have already worked with a former version of the EBI software, e.g. WINLOG 1.5E, then you now have the opportunity to convert your old documents into the *WINLOG 2000* format. These files have the extension **.WLS**.

Confirm the following message with a click on ***Yes***.

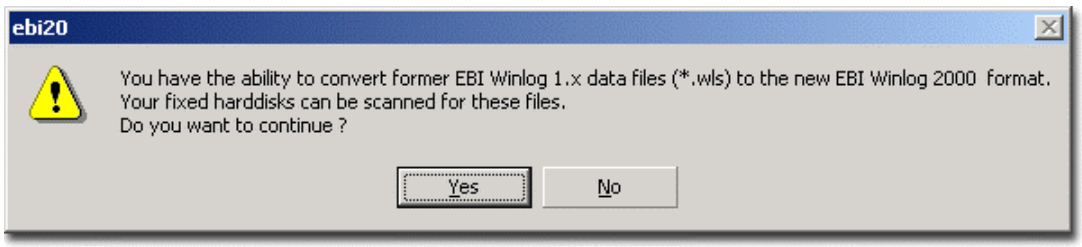

ebi20
You have the ability to convert former EBI Winlog 1.x data files (*.wls) to the new EBI Winlog 2000 format.
Your fixed harddisks can be scanned for these files.
Do you want to continue ?
Yes
No

Fig. 31 Configuration: Conversion of WLS files

The next mask appears with the request to click on the ***Start conversion ...*** button.

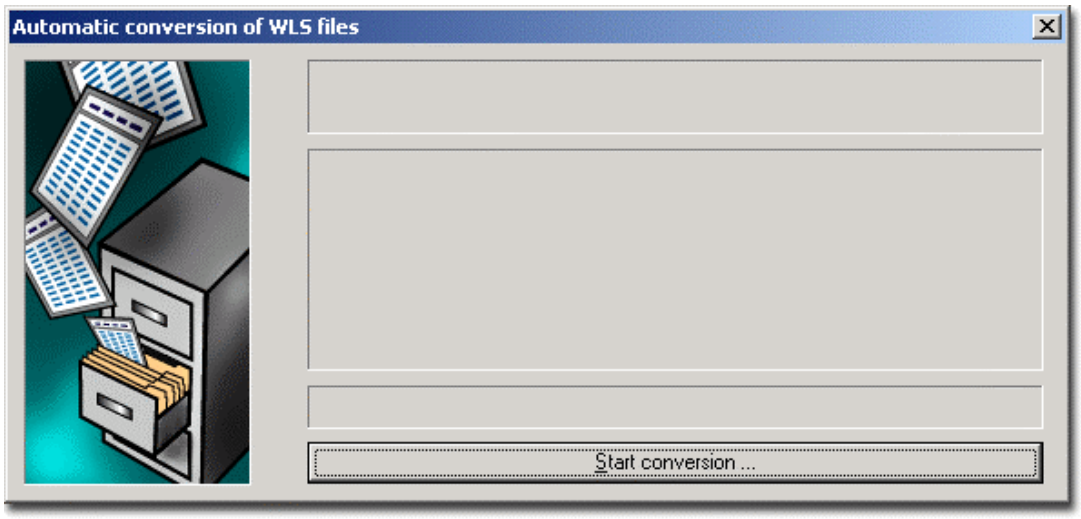


Fig. 32 Configuration: Start conversion

If you click this button, the hard disk on which *WINLOG 2000* is installed will be searched for old files.

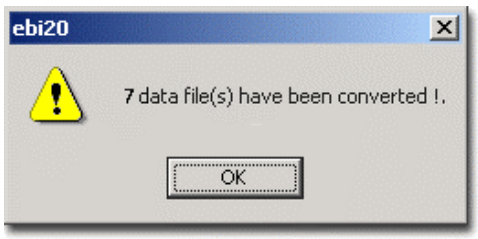


Fig. 33 Configuration: Successful conversion

If the program has found files, you receive the above message.

Of course, you can also answer ***No*** to the question in "*Fig. 31 Configuration: Conversion of WLS files*".

This conversion procedure can also take place at a later time within *WINLOG 2000*.

With this, the configuration of the software is finished. Further settings, which are described in the following chapters, can be changed within the software.

4.4 Software registration

After the installation of *WINLOG 2000*, a registration reminder will be shown at every start of the software. You can overrun this request by clicking on the ***Register later*** button.

But note:

For the next 30 days after the installation, the software will work even without registration. After this evaluation period, you will not be able to access an unregistered *WINLOG* 2000 installation.

To register the software, note the registration number in the mask appearing on the screen. Write this number on the fax included in the delivery and send it to your retailer or directly to ***ebro***.

Registration
EBI Winlog 2000 Registration
Your EBI Winlog 2000 software is not registered !
You can register the software by forwarding the following license number to ebro or to your distributor :
18061712-DHFBE-ICADCE-5971
Ebro will send you a registration number which must be entered in the following data field:
You have
31 Days
to register this software. After this period the software will cease to function.
Register EBI Winlog 2000 now
Register later

Fig. 34 Registration: Mask

You will then receive the registration key by return.

To unlock the software, enter this key into the free text field of the message.

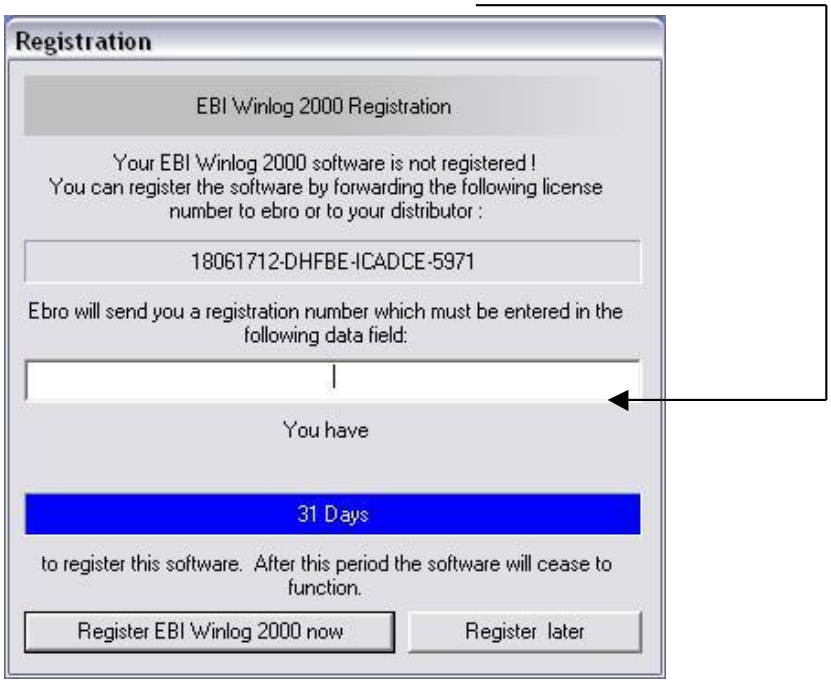

Registration
EBI Winlog 2000 Registration
Your EBI Winlog 2000 software is not registered !
You can register the software by forwarding the following license number to ebro or to your distributor :
18061712-DHFBE-ICADCE-5971
Ebro will send you a registration number which must be entered in the following data field:
You have
31 Days
to register this software. After this period the software will cease to function.
Register EBI Winlog 2000 now
Register later

Fig. 35 Registration: Registration number

Click on the ***Register EBI WINLOG 2000*** button.

Now you receive the confirmation of the successful registration:

Fig. 36 Registration successful

In case that the key you entered is not correct, you will get this message:

Fig. 37 Registration: Incorrect number

Please note that with every new installation of WINLOG 2000 after a change of computer or operating system, your software must be re-registered. For this, you cannot re-use the initial key, because the registration number generated by WINLOG 2000 changes with every new installation. If you only re-install WINLOG 2000 on the same computer with the same operating system, no registration will be required.

5 Working with WINLOG 2000 – S (Standard)

ATTENTION – Check your PC's date and time!

The correct logger programming and data recording requires a precisely set date and time on the PC running WINLOG 2000.

This is especially important if your country is using daylight-saving time.

5.1 Starting the software

Start the *WINLOG 2000* software by double-clicking the "*EBI WINLOG 2000*" icon on your desktop.

Fig. 38 Icon for WINLOG 2000

Following startup screen will show for a few seconds:

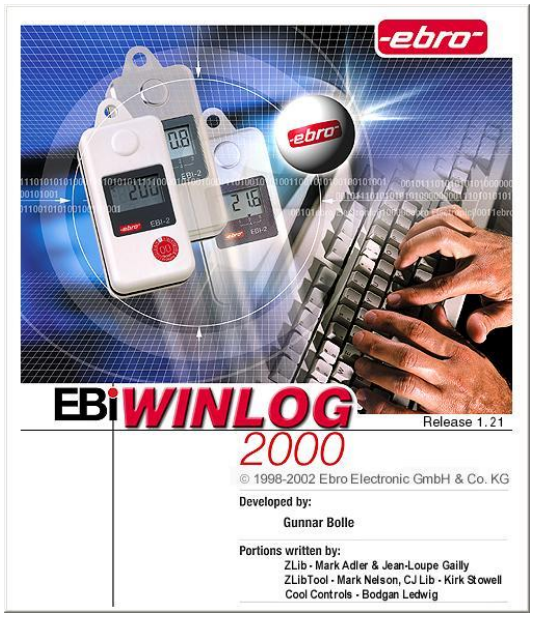

EBiWINLOG
2000
Release 1.21
© 1998-2002 Ebro Electronic GmbH & Co. KG
Developed by:
Gunnar Bolle
Portions written by:
ZLib - Mark Adler & Jean-Loupe Gailly
ZLibTool - Mark Nelson, CJ Lib - Kirk Stowell
Cool Controls - Bodgan Ledwig

Fig. 39 Standard version: Input screen

After a few more seconds, the main panel of this application appears:

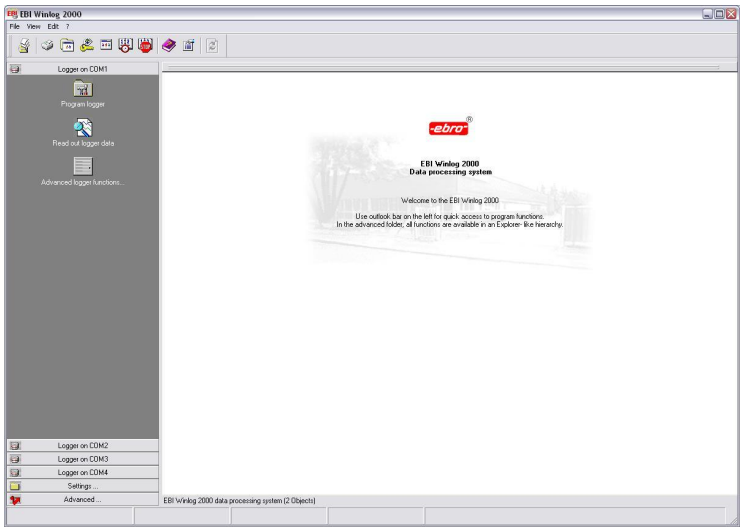

EBI Winlog 2000
File View Edit ?
Logger on COM1
Program logger
Read out logger data
Advanced logger functions...
Logger on COM2
Logger on COM3
Logger on COM4
Settings ...
Advanced ...
EBI Winlog 2000
Data processing system
Welcome to the EBI Winlog 2000
Use outlook bar on the left for quick access to program functions.
In the advanced folder, all functions are available in an Explorer like hierarchy.
EBI Winlog 2000 data processing system (2 Objects)

Fig. 40 Standard version: Main panel

5.2 Help

5.2.1 Tips and Tricks

At every start of *WINLOG 2000*, a Tips and Tricks window will be displayed in the foreground of the application. It is certainly useful to read them for a while.

Tipps und Tricks
Did you know ...
To get more space for informations, you can suppress the Help-text on the left side of the right view with a click to the "<"-Button.
Display tips on startup
Next tip
Close

Fig. 41 Standard version: Tips + Tricks

Later on, you can switch off this display by un-checking the ***Display tips on startup*** box.

You can reactivate this help by opening the menu point ***?*** in the main panel

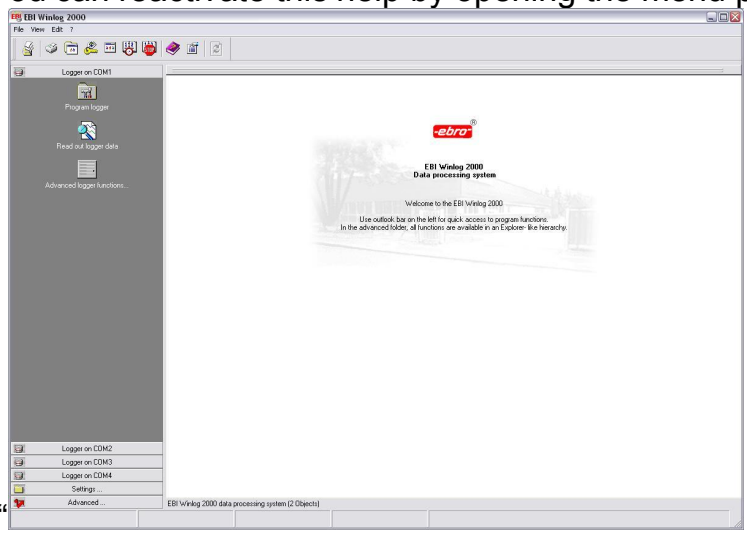
(“ 
EBI Winlog 2000
File View Edit ?
Logger on COM1
Program logger
Read out logger data
Advanced logger functions...
EBI Winlog 2000
Data processing system
Welcome to the EBI Winlog 2000
Use outlook bar on the left for quick access to program functions.
In the advanced folder, all functions are available in an Explorer-like hierarchy.
Logger on COM2
Logger on COM3
Logger on COM4
Settings ...
Advanced ...
EBI Winlog 2000 data processing system (2 Objects)

Fig. 40 Standard version: Main panel*”*) and checking the item ***Tips and Tricks***.

5.2.2 Online help

In this application you can call up the Online Help by pressing the F1 key at any time. In this help file you can carry out a targeted search for a solution to your problem.

You can also access the Help function with a <LMC> on the ***Help*** icon (purple book icon).

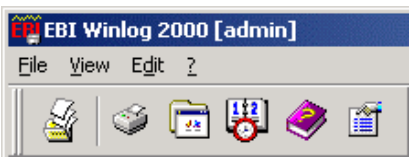


Fig. 42 Standard version: Icon for Online help

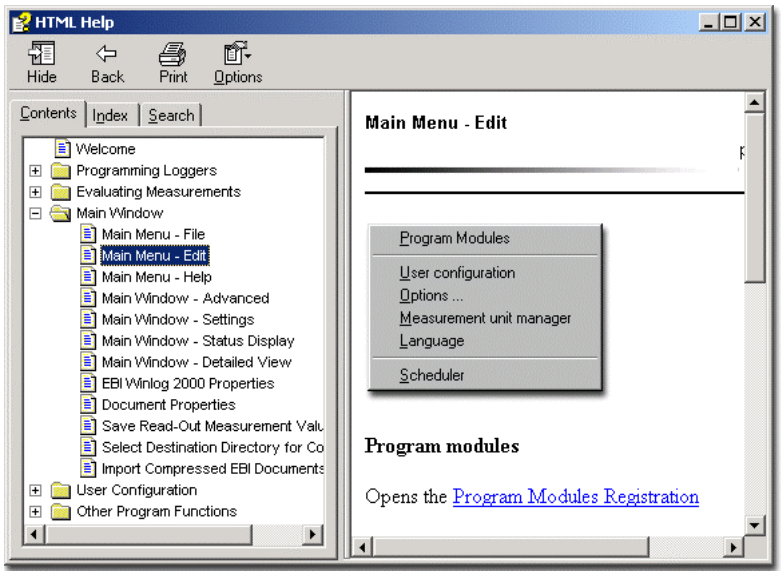


Fig. 43 Standard version: Sample for Online help

In dialog boxes that show a question mark symbol in the top right corner, you can click on it with <LMC>.

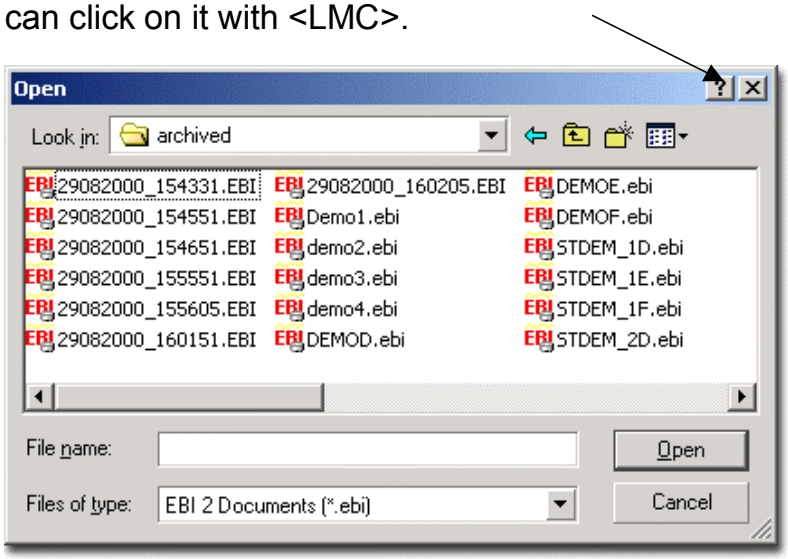


Fig. 44 Standard version: Online help via ?

The mouse cursor will change its form into a question mark, so you can navigate to the item in the dialog box which is unclear to you. Here, click with <LMC>, and a panel with the desired information will open. Another mouse-click on the Help panel makes it disappear.

5.3 The menu

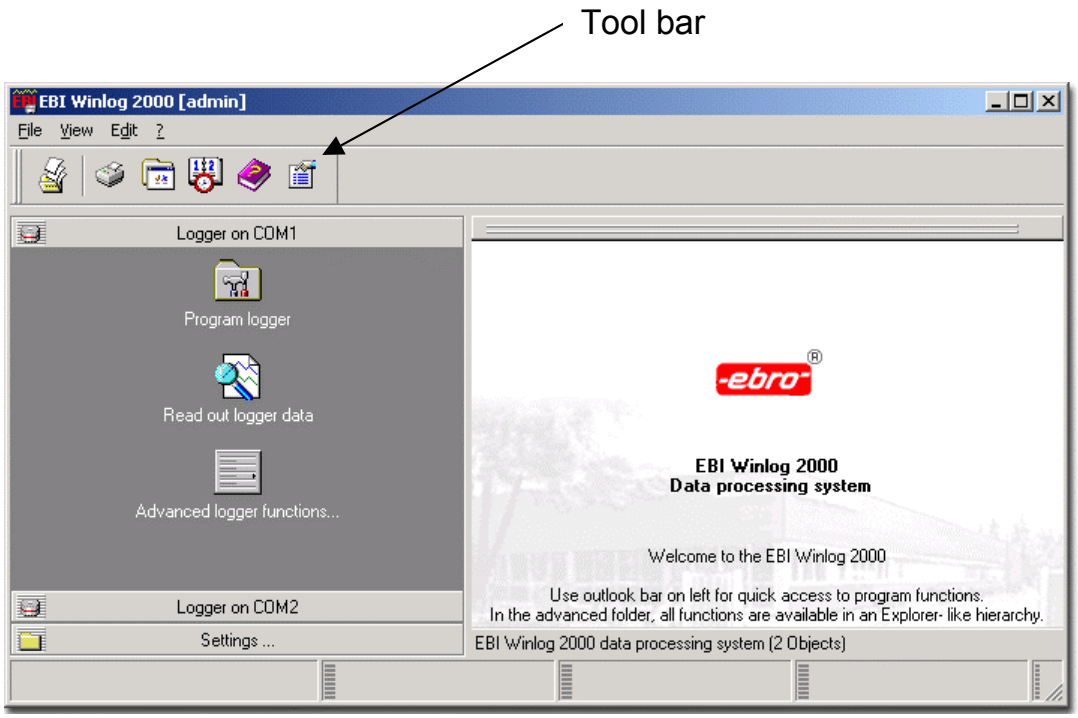

Tool bar
EBI Winlog 2000 [admin]
File View Edit ?
Logger on COM1
Program logger
Read out logger data
Advanced logger functions...
Logger on COM2
Settings ...
EBI Winlog 2000
Data processing system
Welcome to the EBI Winlog 2000
Use outlook bar on left for quick access to program functions.
In the advanced folder, all functions are available in an Explorer- like hierarchy.
EBI Winlog 2000 data processing system (2 Objects)

Fig. 45 Standard version: Main panel

The software menu contains following sub-menus:

- File
- View
- Edit
- ?

5.3.1 Menu *File*

Fig. 46 Menu: File

Open

Here you can open a stored document (**EBI** file)

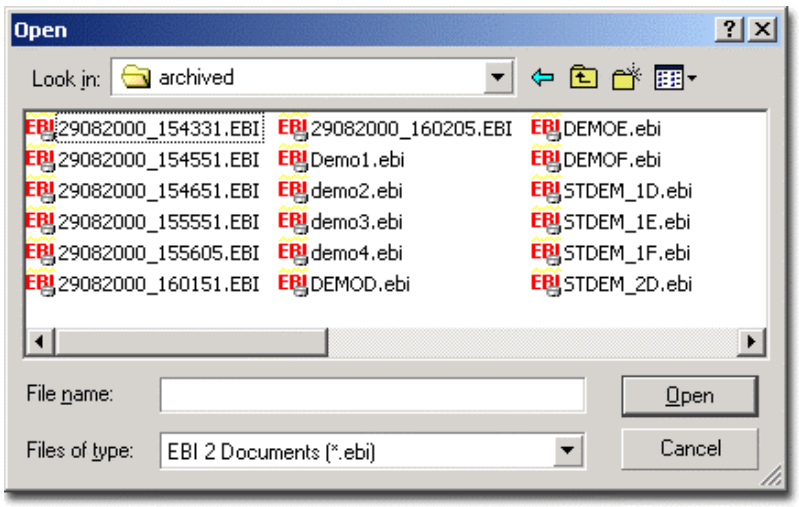


Fig. 47 Menu File: Open ebi-File

Depending on your operating system, the icon bar may contain this icon: . By clicking it, you can return to the desktop in order to open files that are stored there.

Open workspace

Here you can open files you have stored with remarks, legends, zoomed axis and so on. These files names have an **.EBW** extension.

Please go to chapter 8.4 to learn how to generate a workspace file.

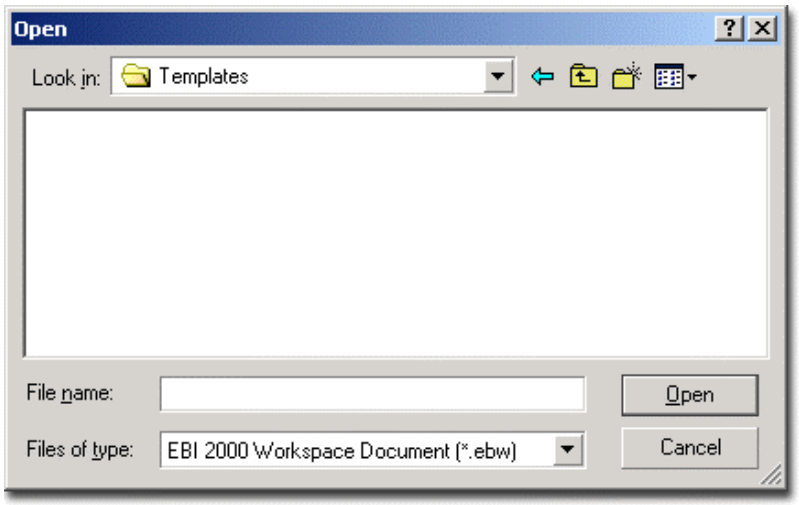


Fig. 48 Menu File: Open ebw-File

Printer setup

Here you can select and configure your printer (see chapter 7.4):

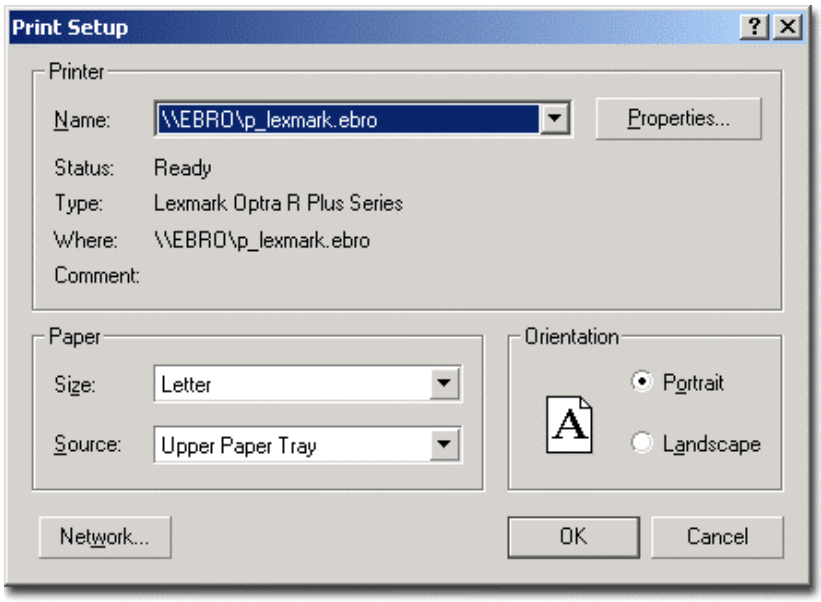


Fig. 49 Menu File: Printer setup

Page setup

Here you can determine the page layout of your printout (paper size, orient a-tion, margins).

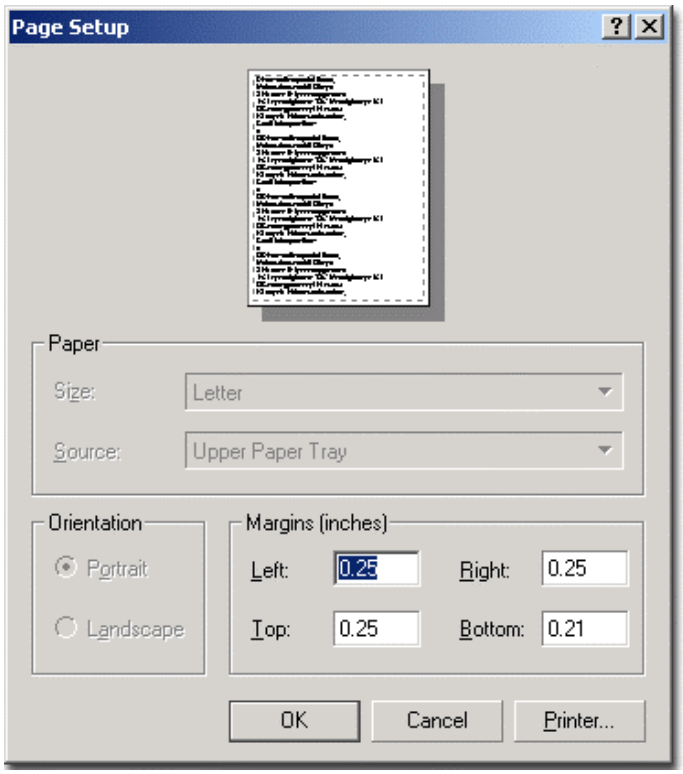


Fig. 50 Menu File: Page setup

Exit

With a <LMC> on this menu point you can close the application.

5.3.2 Menu *View*

Fig. 51 Menu: View

Toolbars

In the *View* menu there is only the option ***Toolbar***, by which you can display or hide the tool bar with a click (check or un-check the line *Tool bar).*

5.3.3 Menu *Edit*

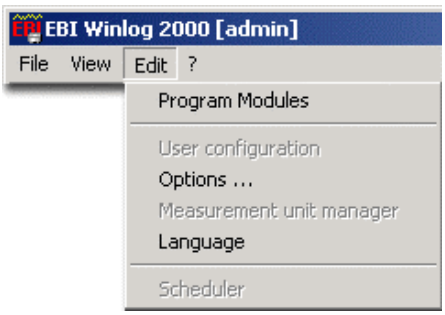


Fig. 52 Menu: Edit

Program modules

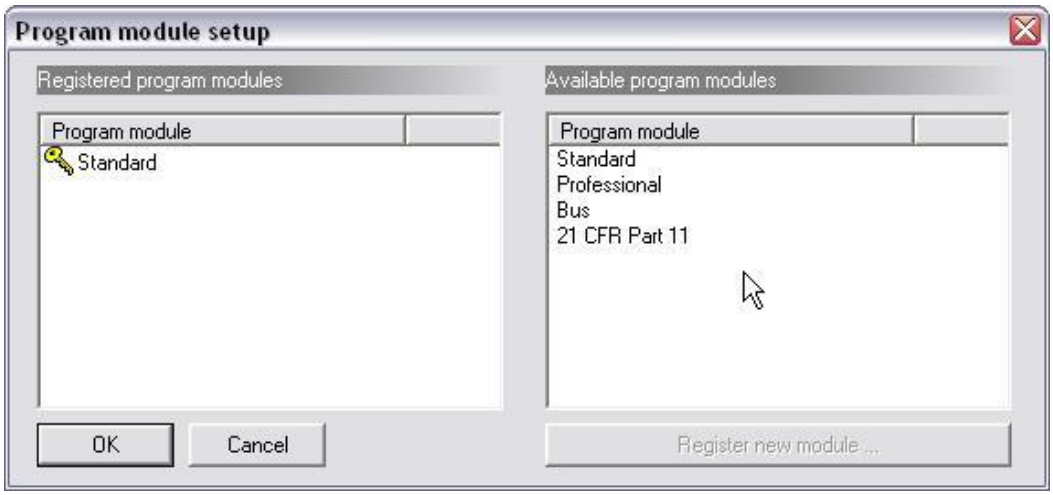


Fig. 53 Menu Edit: Program Modules

In the right part of the window you can select a module you would like to add to your Standard version. If, for instance, you selected the Professional module, following window will appear:

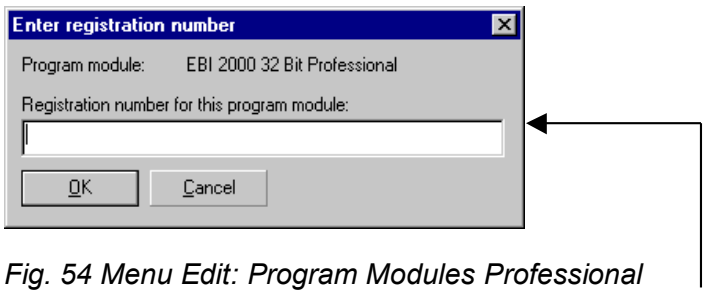


Fig. 54 Menu Edit: Program Modules Professional

You don't need the installation CD-ROM to add modules. Just enter here the registration key you have received.

You will need a new registration key for any additional module you want to install. This key must be obtained from your retailer or directly from ***ebro*** against a upgrade fee.

A successful registration is confirmed by this screen:

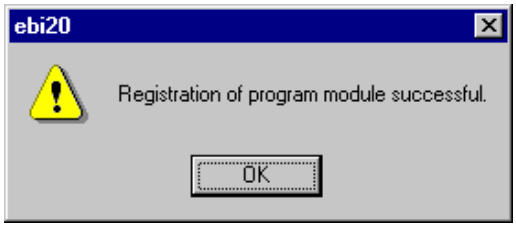


Fig. 55 Menu Edit: Registration successful

Click ***OK*** and you will see a message which requests you to restart the application. You will need to exit and restart *WINLOG 2000* to activate the new program module.

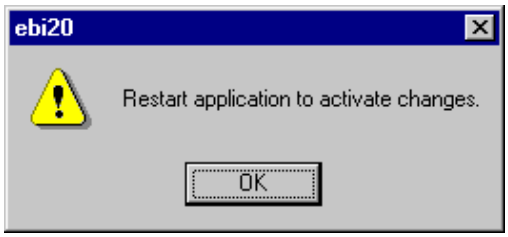


Fig. 56 Menu Edit: Restart WINLOG 2000

If instead of "*Fig. 55 Menu Edit: Registration successful*" you receive the following message, retry this step. In case of repeated failure contact ***ebro*** or your retailer.

ebi20
Registration number for selected program module is not valid.
You can find a valid registration number on your registration card.
OK

Fig. 57 Menu Edit: Wrong register number

Options:

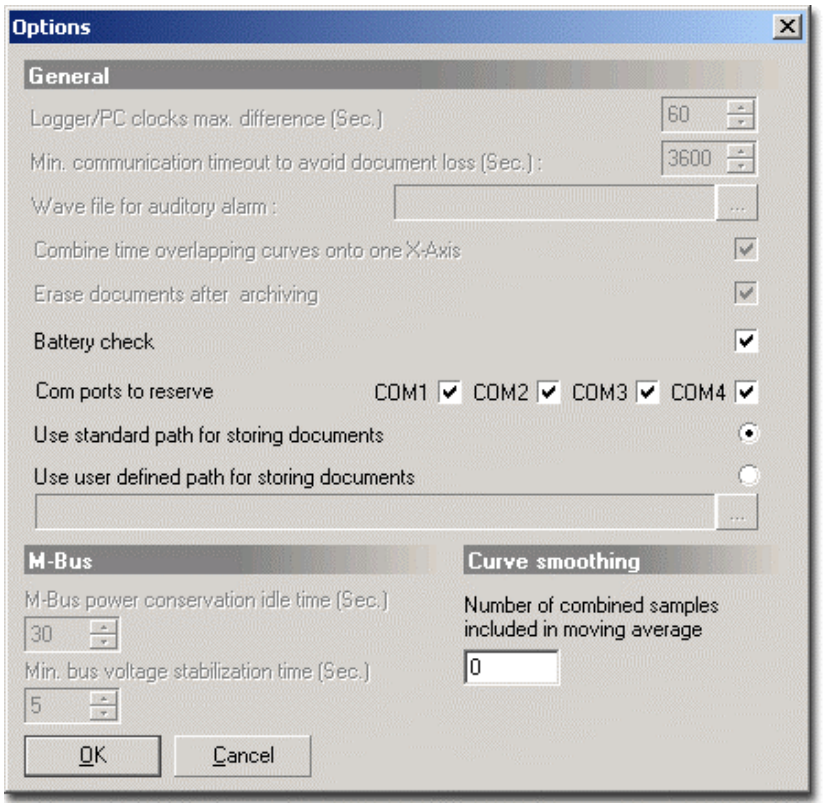


Fig. 58 Menu Edit: Options

Please note that some functions are grayed out, i.e. they are inactive. They are only available in the higher versions of *WINLOG 2000*.

Battery monitoring:

In this menu, you can click to determine if a monitoring of the logger battery should be performed by the software. Click on the corresponding box.

Now, the software will give an output on the state of the battery for all EBI-2 loggers with a firmware date higher than June 1, 1998.

For more details, see chapter 5.3.8.

Reserved COM ports:

Here you can select to reserve further interfaces for *WINLOG 2000*. As soon as *WINLOG 2000* has been started, the checked COM ports are no longer available to other applications.

Fig. 59 Menu Edit: Reservation of COM ports

Directory for logger documents:

Here you can select where to store your *WINLOG 2000* documents. You have two options:

a. Standard directory for logger documents (C:\Program Files\Ebro Elektronik_COMx.dev\LokalerLogger.log\archived.ebi)

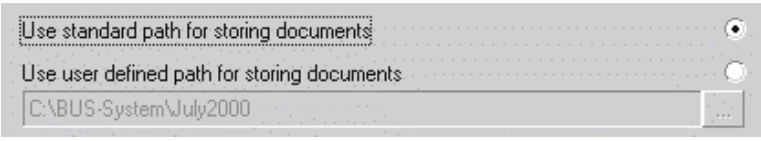


Fig. 60 Menu Edit: Options Standard Path

b. User-defined directory

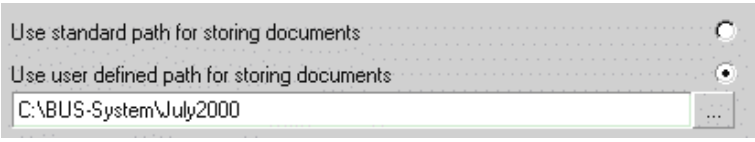


Fig. 61 Menu Edit: Options user defined Path

You can specify the path directly or you can browse your Windows workplace for it using the button.

Smoothening of curves:

Here you can determine from how many measured values an average value should be formed. This only influences the graphic representation of your measured values. The data in the *.ebi files remains unaffected by this setting. You can choose a value between 0 and 10.

0 means that no smoothening is carried out.
10 means that an average value is formed from 10 measured values. This results in a curve of measured values which looks smoother.

Under certain circumstances, you will notice that individual curves in your diagram are marked with a * or **. This has the following meaning:

* In the general settings of *WINLOG 2000*, you have activated the smoothening of the curves.
** The curve has been calculated.

In addition, the graphic representation of the measured values will show a red bar with a text attentioning you of the activated smoothening.

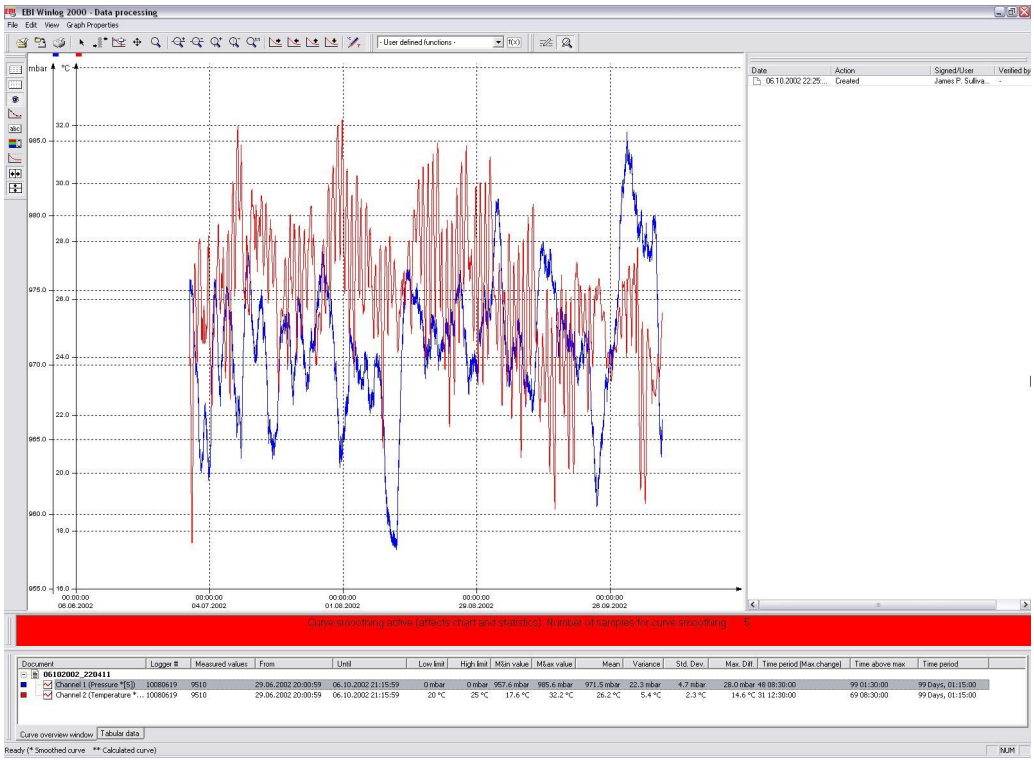


Fig. 62 Menu Edit: Language

If you have selected the curve smoothening, you must be aware that this also influences the representation of the histogram and the limit histogram, as well as the export of measured values. The exported values will differ from the original values (they are smoothed).

Language

In the present version of *WINLOG 2000*, following languages are available:

Fig. 63 Menu Edit: Language

Click on the language you want to use and confirm with ***OK***.

WINLOG 2000 must be restarted in order to activate the change.

Fig. 63 Menu Edit: Restart of WINLOG 2000

Confirm this message with ***OK***.

You will have to exit and restart *WINLOG 2000* in order to activate the language selection.

5.3.4 Menu *?*

Fig. 64 Menu ?

Tips and Tricks

With a click on this menu point, the Tips and Tricks window becomes visible again, as shown in figure 41.

Here, by checking or un-checking ***Display Tips on startup***, you can determine if the Tips and Tricks window should appear at every start of the software.

About EBI WINLOG 2000

If you click on this submenu, you will get the display already shown in Fig 39.

Bug Report

A click on this submenu opens a report form in WordPad, the Windows text editor. In this form, you can report the errors you have discovered. Print the report and send it to ***ebro***.

We would appreciate your making use of this offer. This would help us to improve our software.

Suggestions for improvements

Here, another form is opened in WordPad. You can write down your suggestions, criticism or other remarks and send this form to ***ebro*** or your retailer.

5.3.5 Buttons

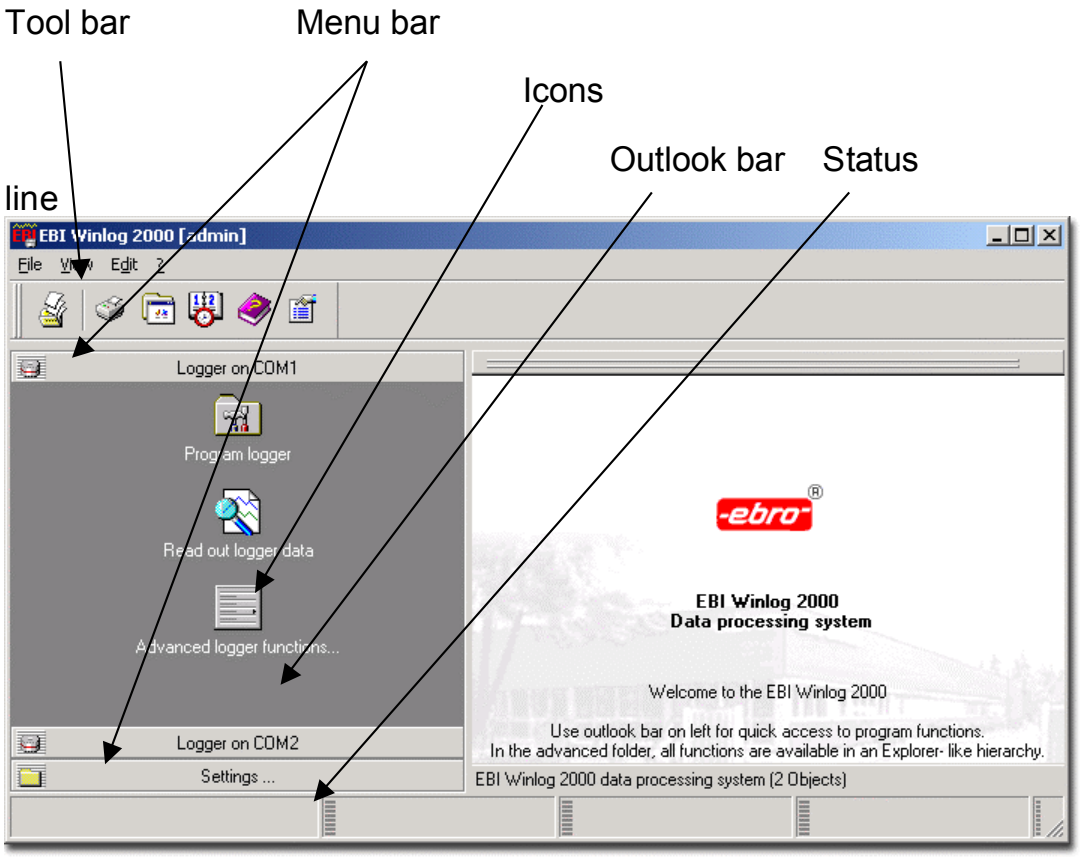


Fig. 65 Buttons

You can click with <LMC> on the menu bar ***Settings*** or ***Logger on COM1*** in the left half in the Outlook bar.

Depending on the COM ports on your computer and your *WINLOG 2000* settings you may see a different logger bar (***Logger on COMx***) or even more than one logger bar.

5.3.6 Settings

When you left-click the menu bar ***Settings***, more options become visible: you can set up your printer (see also chapter 5.3.1) or add program modules (Professional version or Bus version) (see chapter 5.3.3).

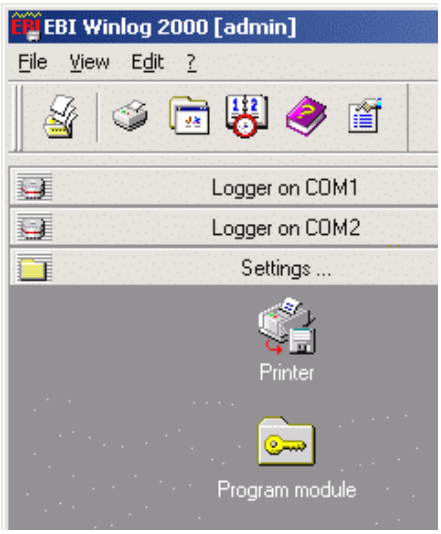


Fig. 66 Settings

5.3.7 Printer setup

A <LMC> on the ***Printer*** icon will lead you to following dialog:

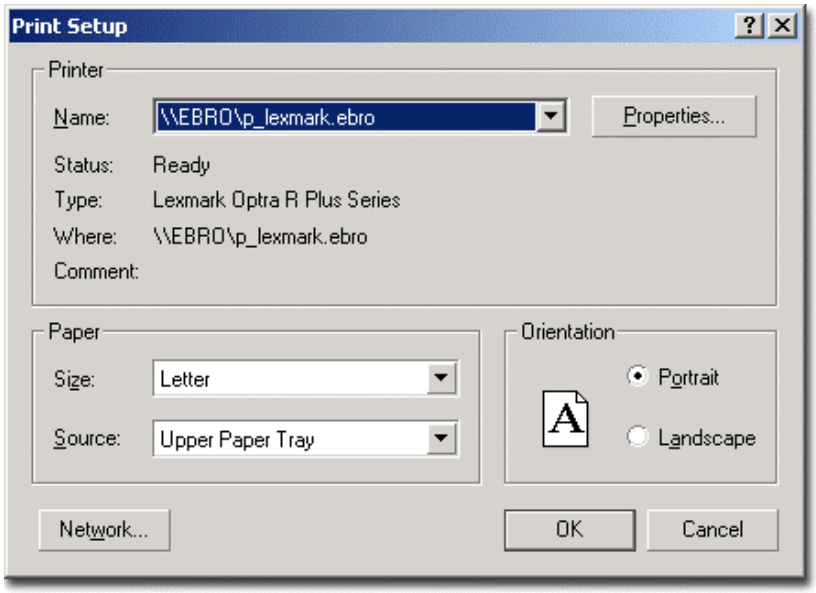


Fig. 67 Printer installation

If you have more than one printer installed, you can select the one you would like to use with *WINLOG* 2000. A <LMC> on shows a list with all your printers.

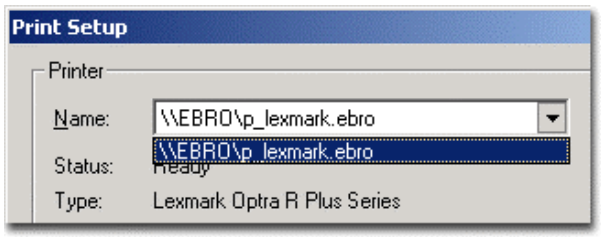


Fig. 68 List of printers

With a click on the **Properties** *button, you can now determine what your printout should look like.*

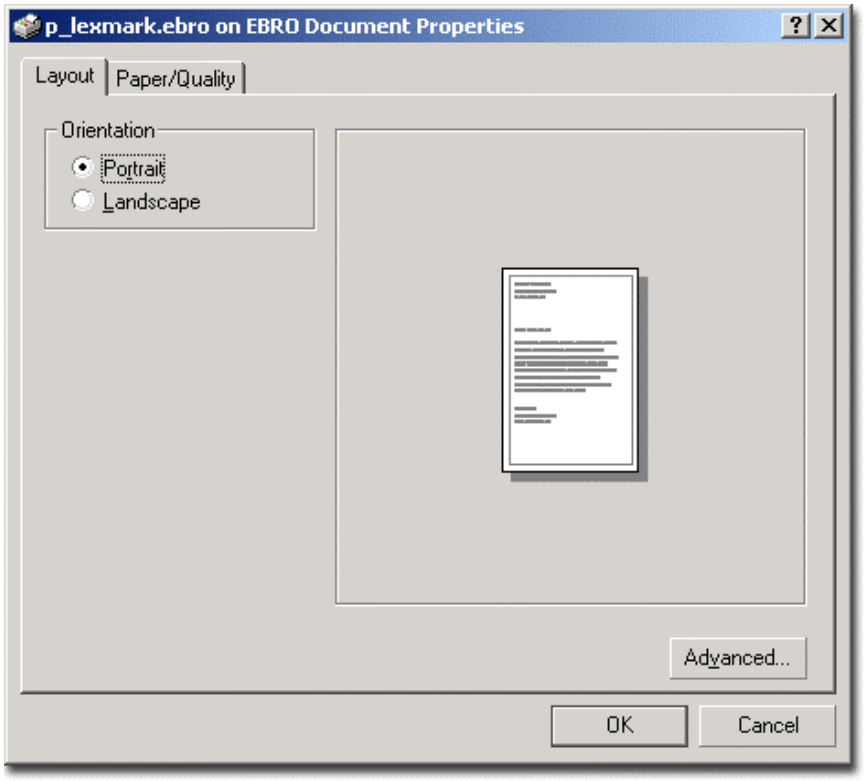


Fig. 69 Printer properties

5.3.7.1 Adding program modules

After clicking on the ***Program modules*** icon, you will see this dialog:

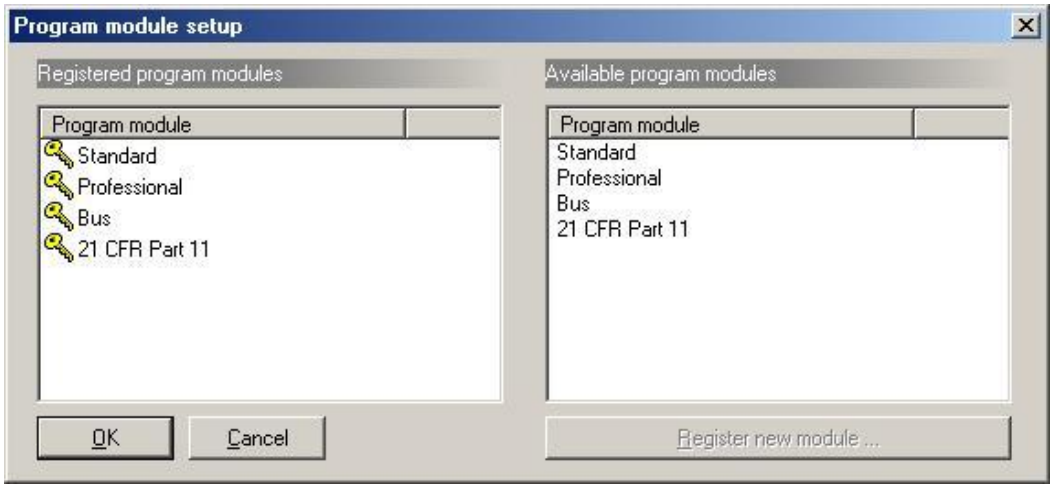


Fig. 70 Program modules

This procedure is already explained in detail in chapter 5.3.3.

5.3.8 Logger on COM1

If you <LMC> the menu bar ***Logger to COM1***, you will see following icons: ***Program logger, Read out logger data*** and ***Advanced logger functions…***

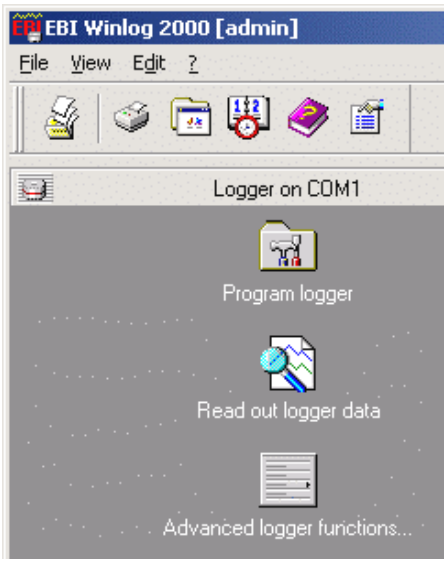


Fig. 71 Outlook bar for Logger on COM1

5.3.8.1 Icon Program

A click on this icon will lead you to the logger re-programming dialog. This programming is described in detail in chapter 6.

5.3.8.2 Icon Read-out logger data

A click on this icon will start a readout of the data recorded by the connected logger. This action is described in detail in chapter 7.

5.3.8.3 Icon Advanced logger functions…

With a <LMC>, you can view the logger details, assuming that a logger is connected to the computer. You can select an option from this menu:

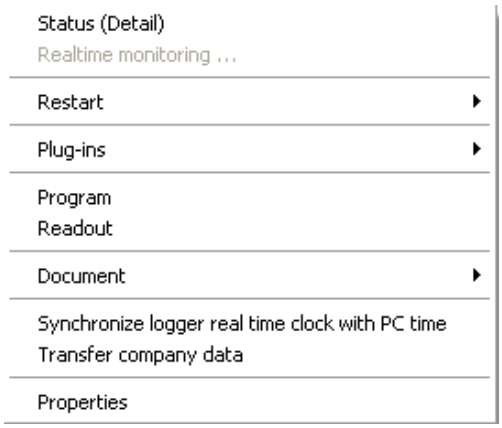


Fig. 72 Menu: Advanced logger functions

If there is no logger connected with the selected COM port, following error message will appear:

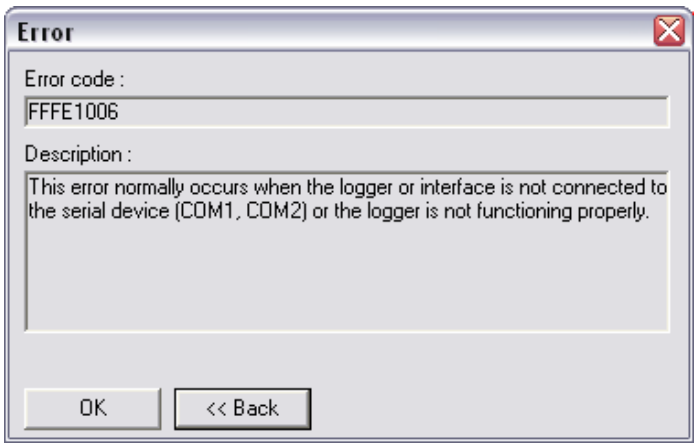

Error
Error code :
FFFE1006
Description :
This error normally occurs when the logger or interface is not connected to the serial device (COM1, COM2) or the logger is not functioning properly.
OK
<< Back

Fig. 73 Error message (logger not connected)

5.3.8.4 Status (Detail)

A click with <LMC> on ***Status (Detail)*** will show a small overview of the logger information.

Fig. 73 Logger: Status information

If you check the ***Automatic refresh*** box, the information is refreshed every second.

You can see
- if limit values have been exceeded
- if the recording of measured values is active
- if the logger has a reset[6] or an open transaction[7]
- if there is a measurement overrun, i.e. the memory is being overwritten (the first values are replaced by the latest)
- if the measurement is finished
- if the logger is active, i.e. if it is measuring
- if the reception of the logger data stream is interrupted
- if the battery is okay.

In case of problems with a logger, you should discuss this information with our after-sales service. We may be able to determine the cause of the errors immediately.

You can close this window by clicking the **X** *symbol in the upper right corner.*

[6] Reset is a internal logger failure described in chapter 13.1.4

[7] Open Transaction is a internal logger failure described in chapter 13.1.4

Battery measurement

As mentioned already, at present it is only possible to monitor EBI-2 loggers with a manufacturing date later than October 1998.

If the battery is okay, the status field has a light green color.

Fig. 74 Battery OK

When a battery is almost depleted and should be immediately replaced, the status field has a red color.

Fig. 75 Battery to be replaced

If a series EBI 85 A or 125 A logger is connected, no battery status can be determined. In this case, a question mark appears in the status field.

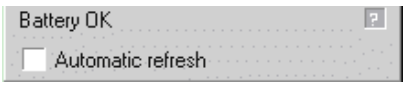


Fig. 76 Battery status unknown

In case of a **red status field** you should return the logger immediately to ***ebro*** for battery replacement, otherwise data can be lost!
It is recommendable that you have the battery checked by ***ebro*** during the normal 6 or 12 months calibration procedure.

5.3.8.5 Restart

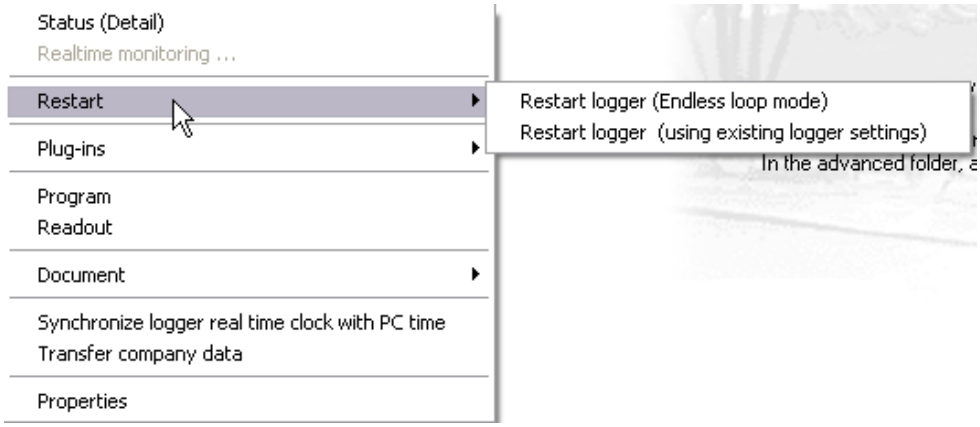


Fig. 77 Restart logger

Here, you can restart the logger directly. You can either start it with a default setting (endless loop measurement with an interval of 15 seconds) or with the setting already stored in the logger. Click with <LMC> to select.

5.3.8.5.1 Programming with...

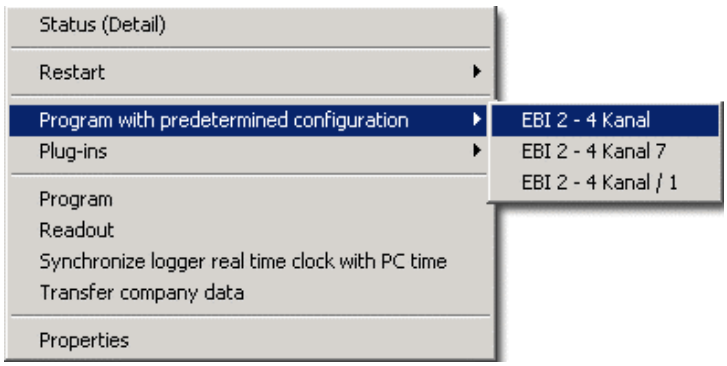


Fig. 78 Program logger with...

Chapter 6.2.1.5 describes how to create programming schemes. You can use this schemes (configurations) later to program loggers very easily. All information contained in this scheme is written into the logger.

Once you have created a programming scheme, it will appear here. It allows you to program the logger by clicking it.

5.3.8.5.2 Plug-ins

The so-called plug-ins are additional pieces of software which are integrated in *WINLOG 2000* in order to enable you to execute optional functions.

5.3.8.5.3 Programming

This menu item will call up the programming dialog, which is described in detail in chapter 6.

5.3.8.5.4 Readout

This function starts the readout of the logger's measurement values.

5.3.8.5.5 Synchronizing the logger clock with the PC

The logger's real-time clock (RTC) can have an error of up to half an hour per year, due to tolerances of the electronic components. To set the clock to the correct time, you can select this menu point.

First, you will receive a warning message informing you that all data that have not yet been read-out will be lost by updating the clock.

ebi20
WARNING!: When updating real time clock, all recorded data will be erased and will be permanently lost. Logger will automatic restart.
Are you sure ?
Ja
Nein

Fig. 79 Warning at restart of logger

If the logger contains relevant measurement values you haven't read out and saved yet, cancel this operation NOW!
Otherwise, the measured data will be irreparably lost. Read-out and save it before you start updating the logger clock again.

If you confirm ***Yes*** with <LMC>, the actual PC time will be written into the logger, and the logger will be started new.

The success of this action is documented by the following message:

Fig. 80 Successful synchronization of logger RTC

Since the clock of your computer can also differ from the actual time, please check and adjust this first before updating the logger!

5.3.8.5.6 Transfer of company data

When you activate this item, the information given during the software installation (See *"Fig. 30 Configuration: Data of your company*", chapter 4.3.3) is written into the logger.

5.3.8.5.7 Properties

This item displays an overview of all relevant logger data.

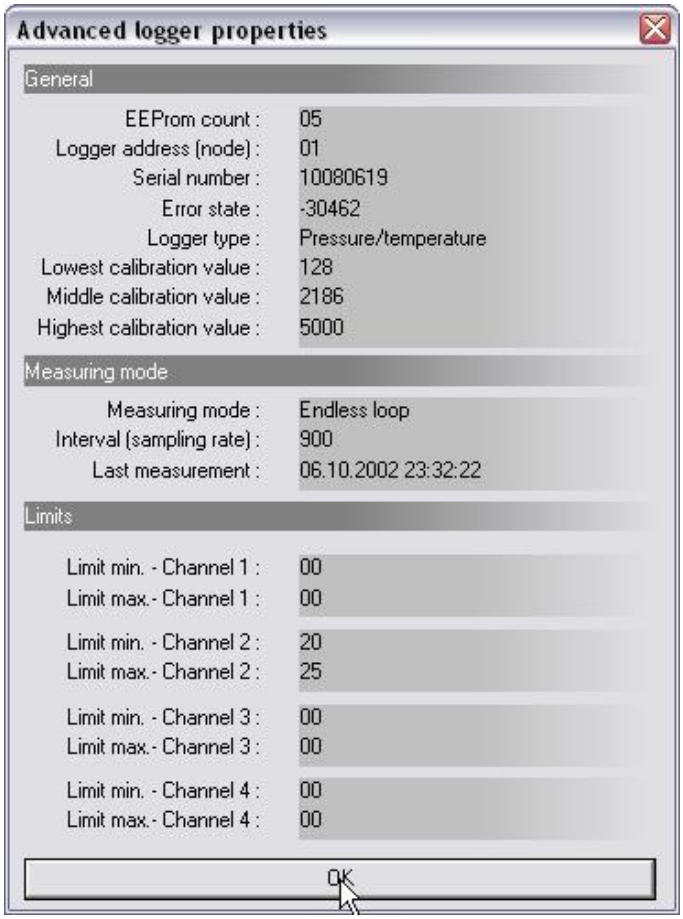

Advanced logger properties
General
EEProm count : 05
Logger address (node) : 01
Serial number : 10080619
Error state : -30462
Logger type : Pressure/temperature
Lowest calibration value : 128
Middle calibration value : 2186
Highest calibration value : 5000
Measuring mode
Measuring mode : Endless loop
Interval (sampling rate) : 900
Last measurement : 06.10.2002 23:32:22
Limits
Limit min. - Channel 1 : 00
Limit max.- Channel 1 : 00
Limit min. - Channel 2 : 20
Limit max.- Channel 2 : 25
Limit min. - Channel 3 : 00
Limit max.- Channel 3 : 00
Limit min. - Channel 4 : 00
Limit max.- Channel 4 : 00
OK

Fig. 81 Logger properties

The information here is read-only (it can not be edited). In case of logger problems, it can be helpful when you call the ***ebro*** hotline.

5.3.8.6 Icon Cancel

When you read-out a logger, an additional ***Cancel*** icon appears in the outlook bar

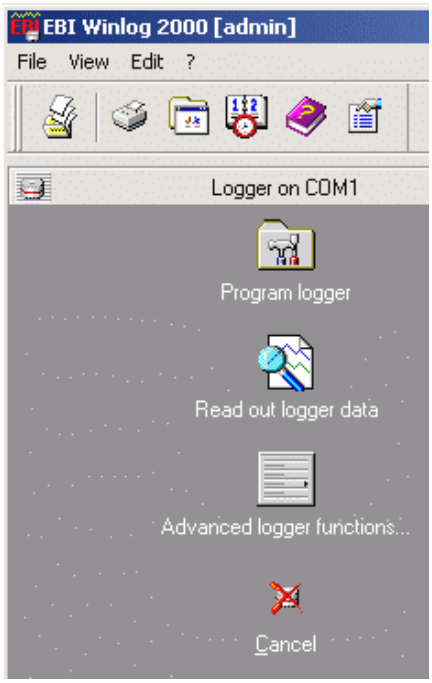


Fig. 82 Outlook bar: Cancel

With <LMC> on this icon, the readout procedure is aborted. You receive the following message:

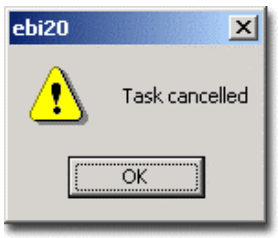


Fig. 83 Cancel confirmation

5.4 Tool bar

In below of the menu bar, there is a toolbar with following icons:

Fig. 84 Toolbar: Overview

Open file

When clicked, a file directory opens and you can select a file.

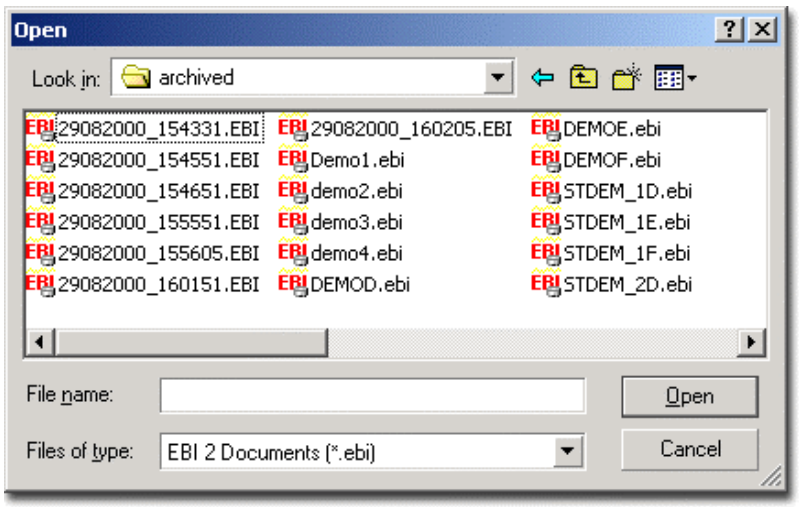


Fig. 85 Contents of data folder

It is not possible to open files directly from a CD-ROM, because WINLOG 2000 needs full access rights to documents. Since the files on a CD-ROM have a “Read only” attribute, you will need to copy the files to your harddisk and then uncheck the “Read only” attribute in the file properties.
Otherwise, you will receive an error message as described in Chapter 12.1.4 (Error 4.5).

Printer

When clicked, the printer setup opens.

Version

A <LMC> on this button will show you following box containing information on the *WINLOG 2000* version you are using.

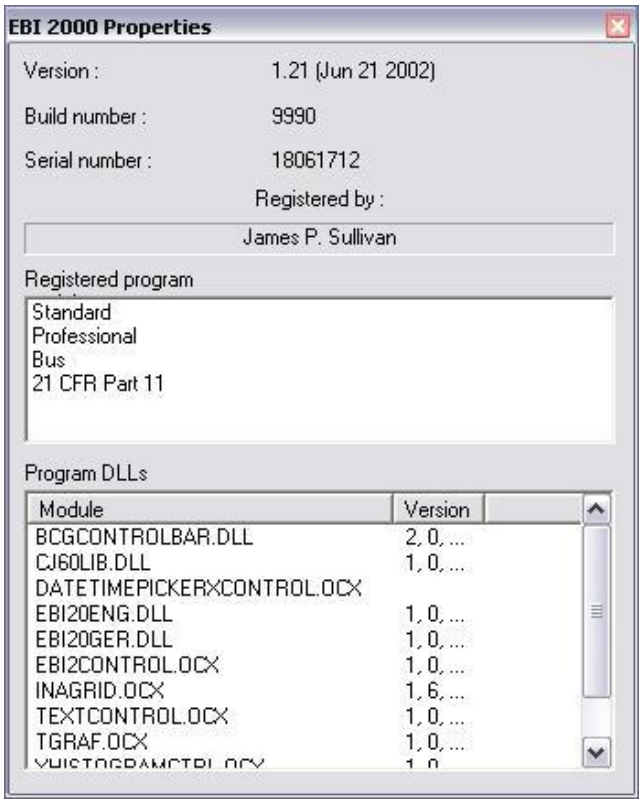


Fig. 86 Version information

Version

This is the official release number of the software.

Build number

This is the internal release number of the software.

Serial number

This is the serial number of the software.

It is important for you to know these numbers when you contact the *ebro* hotline. You will be asked for them by our support team.

Registered by

This is the name you stated during the registration procedure.

Registered program modules

These are the program modules (software versions) you have registered. You can add further modules as needed.

You can close the version information window by clicking on the X symbol in the upper right corner.

You can find more information in the chapters 10 and 11.

Add program modules

This will lead you to the registration menu for new program modules, described in chapter 5.3.3.

Help

With a <LMC> on this icon, the Online Help is opened.

You can also press the function key F1 to call the help function.

6 Logger programming

6.1 Requirements

In order to be able to record measured data with a logger, it is necessary to write certain information into the logger. This procedure is called “programming“.

Measuring interval, measurement duration, limit values, texts etc. are information that is required for correct measurement.

A logger can only be programmed if it is connected with the PC. Depending on the logger type, the corresponding powered interface or data cable must be connected to the PC (see also chapters 3.1 and 3.2).

The *WINLOG 2000* software must also be running.

6.1.1 Connection of series EBI 85A or EBI 125 A loggers

Place the logger (series EBI 85A or EBI 125A types) into the interface.

6.1.2 Connection of series EBI 2 and EBI 3 loggers

Loggers with an RS 232 interface (series EBI-2 and EBI-3 types): first remove the protection cap from the RS 232 socket on the backside of the logger. Then, connect the data cable with the logger and with the PC.

Don’t forget to replace the protection cap to the RS 232 connector of logger once you have disconnected it from the cable. This is essential to assure the watertightness of the logger.

6.2 Programming dialog

Fig. 87 Program logger: Icon

Call the programming dialog with <DMC> on the ***Program logger*** icon.

The mouse-cursor on the monitor changes its appearance into: .

This symbol is generated every time a communication with the logger takes place. If the logger has been recognized, the mouse cursor returns to its original shape.

While the logger-specific data are read from the logger, the following figure appears for your information:

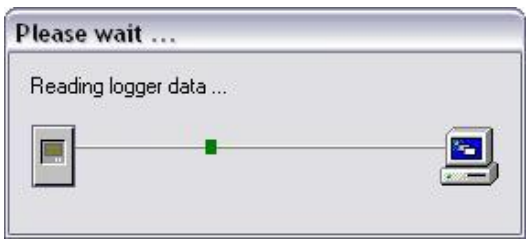


Fig. 88 Program logger: Reading data

At the same time, you can watch the progress of the readout in the status line of *WINLOG 2000*.

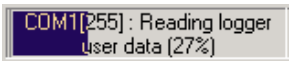


Fig. 89 Program logger: Progress of reading data

The user data reading procedure takes between 5 and 15 seconds.

After all relevant data have been automatically read by the software, the programming dialog appears (Fig. 91).

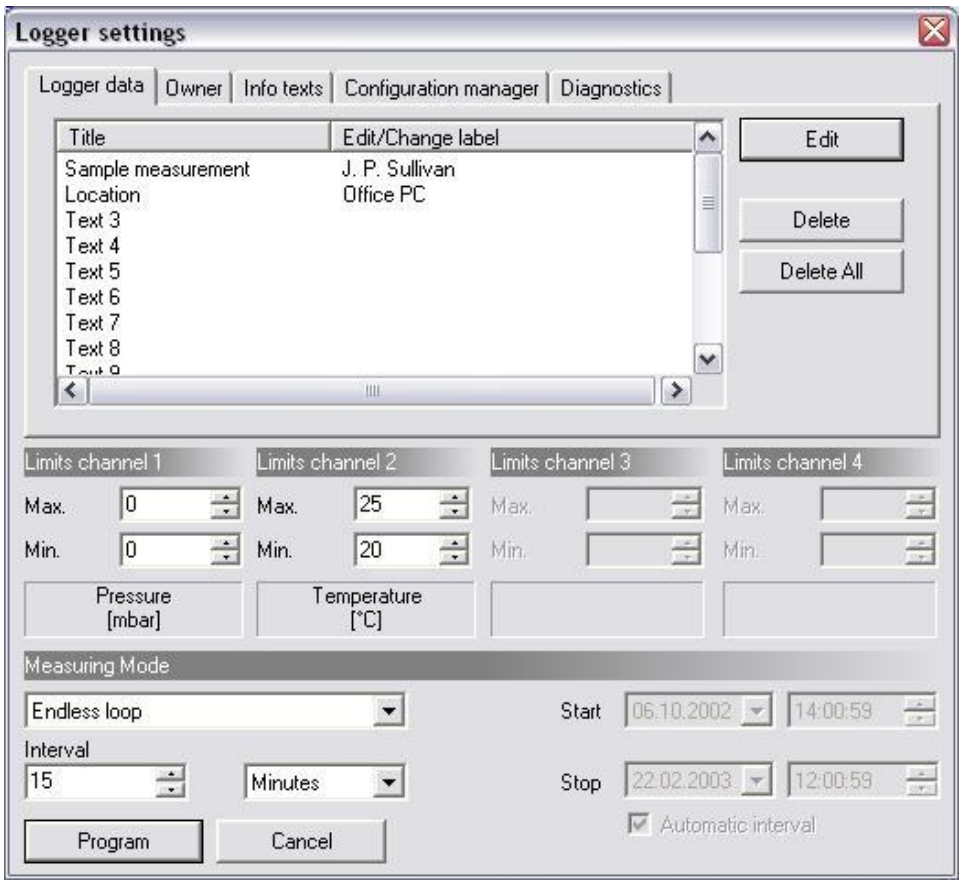


Fig. 90 Program logger: Dialog

This screen is divided into three parts.

The upper third contains several programming views as labeled (logger data, owner data, date/time, information texts and configuration manager).

The middle third indicates the number and type of the measuring channels, and the limit values of the individual channels.

The lower third of the screen displays the measuring mode and the measuring interval.

The exact description can be found in the following sub-chapters.

6.2.1 System data

These data can be found in the upper third of the programming mask.

6.2.1.1 Logger data

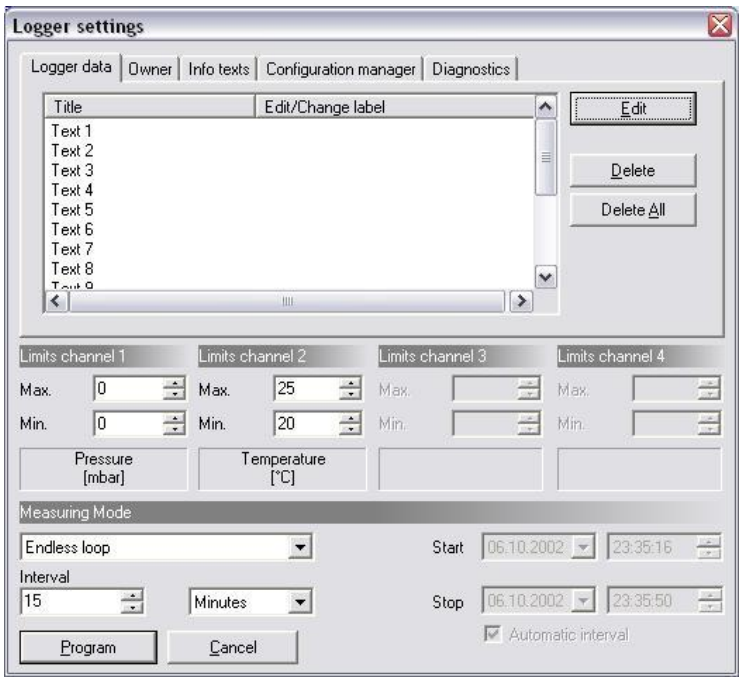


Fig. 91 Program logger: Logger data mask empty

With a click on a title field, e.g. “Text 1“, the grayed button ***Edit*** is activated. By clicking it with <LMC> you can change the label and edit the text.

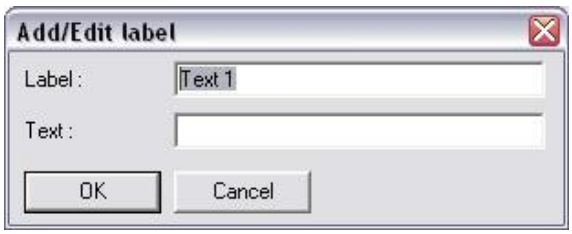


Fig. 92 Program logger: Edit of data

Each label can only contain up to 19 characters including spaces.

Here, you can enter customer-specific or user-related text like this:

Fig. 93 Program logger: Edit of data finished

When you click ***OK***, the text is saved, but not written into the logger yet. This is done at the very end, when the logger is programmed.

Proceed with the other text fields in the same way. A total of 15 fields are available for editing.

If you don't need all text fields, you can mark them individually with <LMC> and remove them with <LMC> on ***Delete***.

For our example, we will edit only 4 fields, obtaining following logger data:

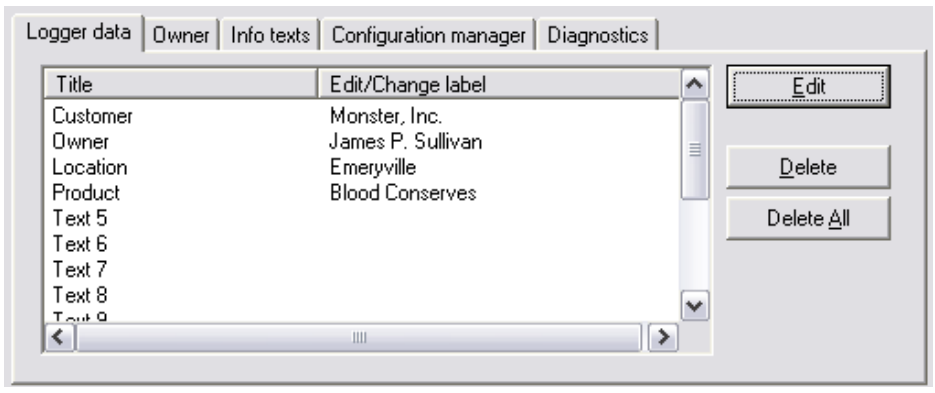


Fig. 94 Program logger: Filling of logger data finished

Of course, you can also leave all fields unchanged.

6.2.1.2 Owner data

You can store your company data in each of your loggers in order to personalize them.

At one click with <LMC> on the ***Owner*** panel, the input dialog for the owner data appears.

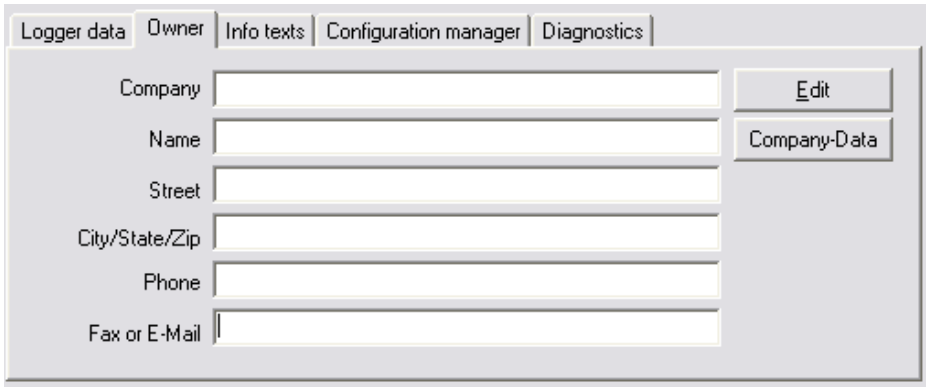


Fig. 95 Program logger: Owner data mask empty

Now, you have two options to enter your company data:

a. You click on the ***Edit*** button and then enter your data (up to 19 characters in a line!

   Edit all text lines.

b. You click on the ***Company Data*** button. First, following message appears:

Fig. 96 Program logger: Warning message for Owner data

During the installation of WINLOG 2000, you have stored your company data in a mask (see chapter 4.3.3, “Fig. 30 Configuration: Data of your company”).

If you want to write these data into the logger, click on the ***Yes*** button.
The data is transferred to the corresponding fields.

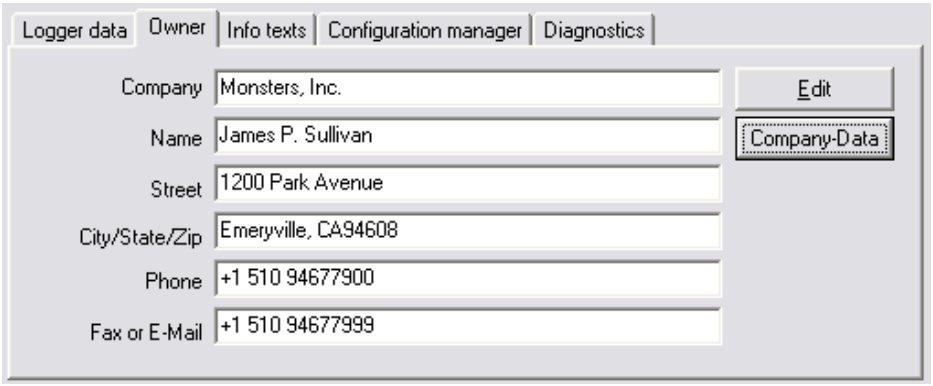


Fig. 97 Program logger: Owner data mask filled

Here also, the text is only saved, but not written into the logger yet. This happens only at the very end, when the logger is programmed.

6.2.1.3 Information text

A click on the ***Info texts*** button opens the following dialog:

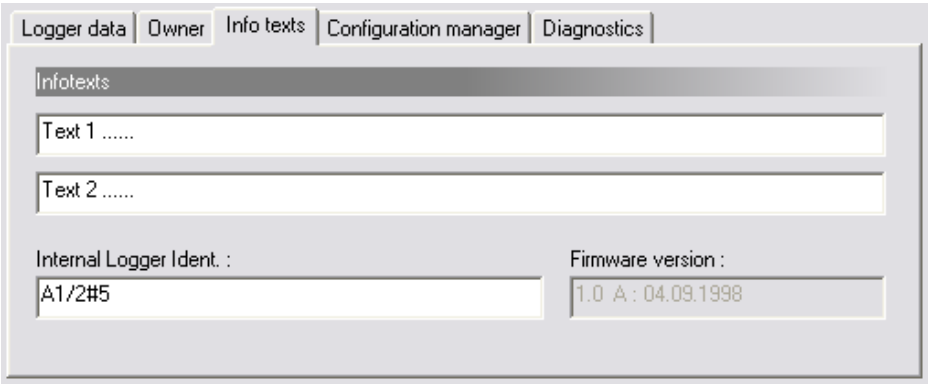


Fig. 98 Program logger: Info texts

You can enter text in both ***Info texts*** fields, using a maximum of 19 characters in each line.

You can also enter a description in the field ***Internal logger identification***, for instance an inventory number. Here, a maximum of 8 characters is permitted.

Remember that the text is only written into the logger at the end of the programming procedure. Consequently, you can always return to previous masks and change something.

As an additional information, the firmware version of the logger is displayed (the firmware is the internal software for the microprocessor in the logger).

6.2.1.4 Configurations management

It is useful to come back to this point after you have entered the measuring mode, the measuring interval and the limit values.

A stored configuration can spare you the repeated keying-in of identical text and other data when programming a new logger. This is especially helpful when you need to program an entire batch of basically identical loggers.

You can save all information entered previously in a new configuration, best using a characteristic and self-explanatory name.

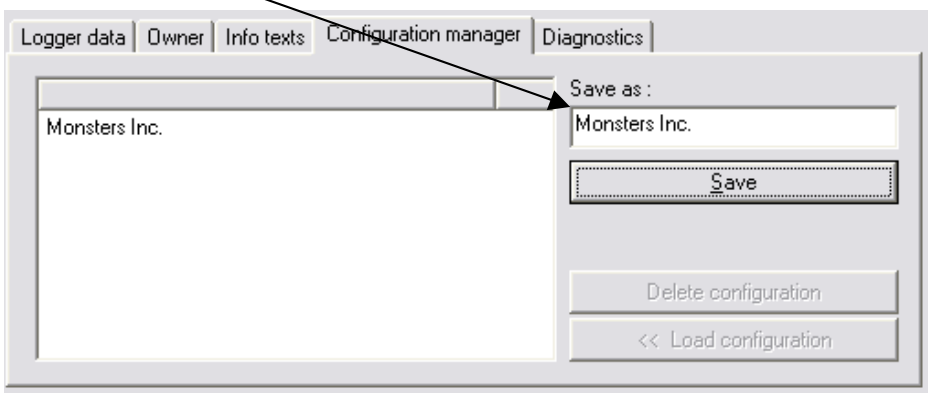


Fig. 99 Programming a logger: Configuration management

When you want to program another logger, you just have to select the needed configuration from the list and then click on the ***<<Load configuration*** button.

Automatically, all stored information is transferred to the specific fields of the programming dialog. However, you can still change every field before actually programming the logger (e.g. enter a different measuring interval).

It is also possible to remove configurations that are no longer required. Select a configuration name and click the ***Delete configuration*** button.

6.2.2 Limit values

In the middle third of the programming mask, "*Fig. 90 Program logger:* " in chapter 7.2, you can see the number and the type of the measuring cha nnels as well as the limit values of the single channels.

Measuring channels

For a 1-channel temperature logger, it looks like this:

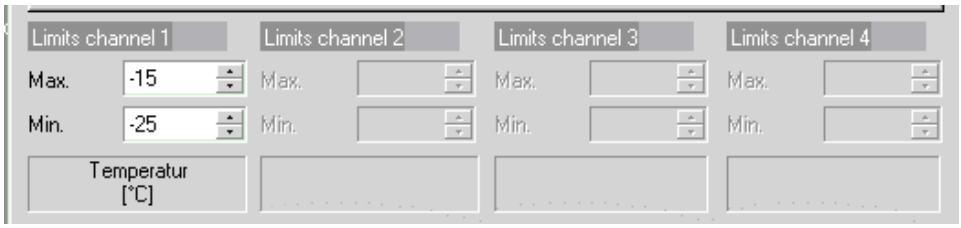


Fig. 100 Program logger: 1 channel

You see that only channel 1 is active, the other channels are grayed out. In this case, the channel 1 is a temperature channel.

For comparison, here is an example of a pressure/temperature logger:

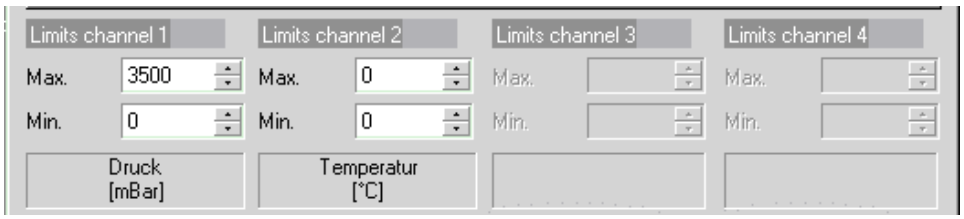


Fig. 101 Program logger: 2 channel

Here you can see two active channels, where channel 1 is measuring the pressure and channel 2 is measuring the temperature.

Limit values

In the graphic representation of the measured values, the limits are displayed as horizontal lines. This way, you can immediately see if all measured values have been within the preset tolerance.

You can enter an upper and a lower limit value for each measuring channel.

In BUS systems consisting of EBI data loggers, these limit values can be permanently monitored. If the upper or the lower limit value is exceeded, an alarm can be generated (see chapter 11 for details).

On some of the EBI-2 series loggers the display blinks when a limit is violated. Check your logger's manual for details.

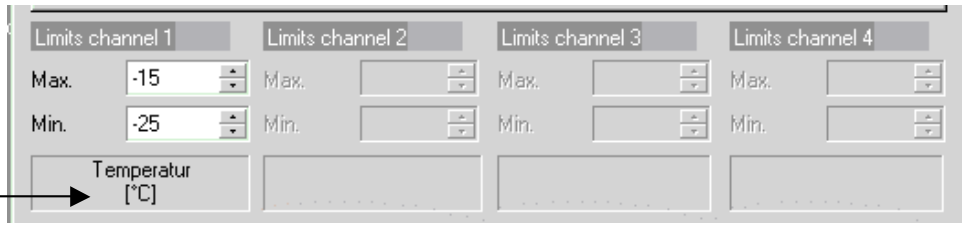


Fig. 102 Program logger: diologbox for limits

Generally limits only can be edited in the basic (native) unit of the logger. This means that you cannot edit limits in derived units (like °F, for instance).

In the dialog you can see the basic unit of each channel. When you start editing the limit values you will get the following reminder message.

ebi20
Please note : Always enter setpoints with regards to the logger's native measurement units.(Temperature in Degree Celsius, Pressure in mbar, etc.)
OK

Fig. 103 Program logger: Edit limits in basic unit

There are two ways of setting the limit values:

a. Mark the default limit with the mouse and key in the new value.

You can only use integer values for limits!

b. You click on the buttons with the mouse, until the correct value appears.

The maximum limit value must be greater than the minimum value.

Example: **OK** Max: +30°C
Min: -10°C

or Max: -15°C
Min: -18°C

Not OK Max: +30°C
Min: +40°C

or Max: -18°C
Min: -15°C

If you disregard this rule you will be reminded to change the values by the following message, when you start to program the logger.

Fig. 104 Program logger: Incorrect limit

6.2.3 Interval and measuring mode

The measurements the logger is meant to perform and to store should be adapted to the measuring task. It doesn't make sense to measure a top-opening freezer in 1-second intervals or a heating-up phase in 15-minutes intervals.

In order to adapt to your task, you can freely choose the interval and the measuring mode.

6.2.3.1 Measuring interval

In the lower third of the programming dialog you can determine the measuring interval.

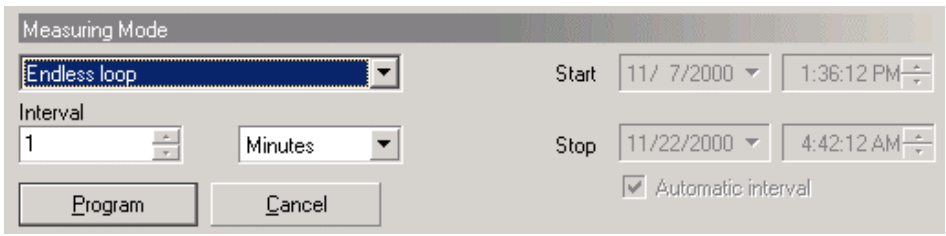


Fig. 105 Program logger: Measuring interval

When you click on the symbol next to "Minutes", the following panel opens:

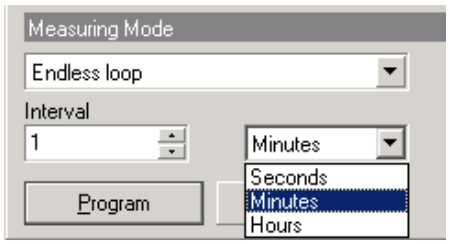


Fig. 106 Program logger: Measuring rate - Minutes

Select a time unit with <LMC>.

Enter a value in the ***Interval*** field directly with the keyboard or change the default value using the buttons.

6.2.3.2 Measuring mode

In the lower third of the programming dialog you can determine the measuring mode.

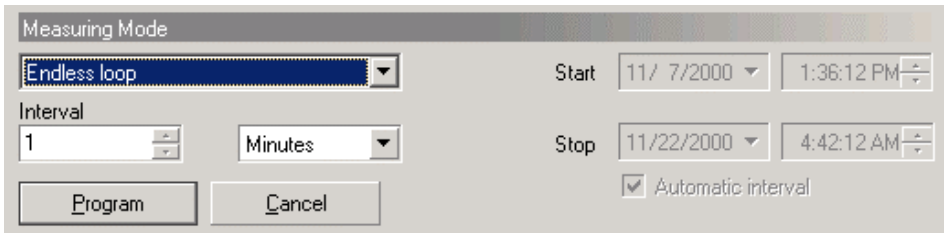


Fig. 107 Program logger: Measuring mode

Click on the symbol next to “Endless loop“ to display an options list:

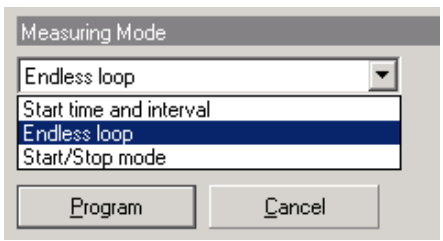


Fig. 108 Program logger: Measuring mode endless

Select one of the three measuring modes from the list by clicking with <LMC>. The measuring modes are described in the following sub-chapters.

6.2.3.2.1 Endless loop measurement

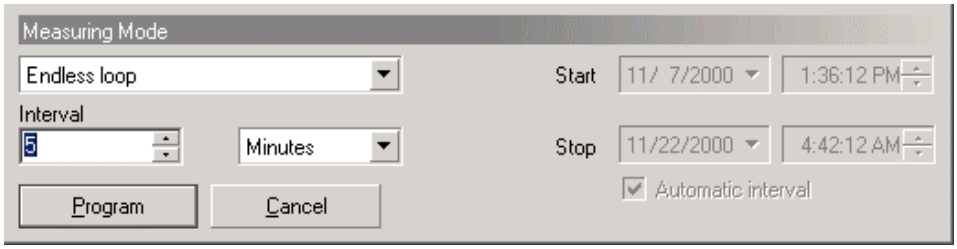


Fig. 109 Program logger: Measuring mode endless loop

In this mode, the logger is measuring continuously. You don't need a start and stop point here. The logger starts measuring immediately after programming ans doesn't stop until it is re-programmed. The values are written into memory by the FIFO method (first in – first out). When the memory is full, the first values are overwritten with new values.

Therefor you can only change the measuring interval. All other fields are inactive.

6.2.3.2.2 Start-stop measurement

If you have selected the start-stop measurement, you'll see the following:

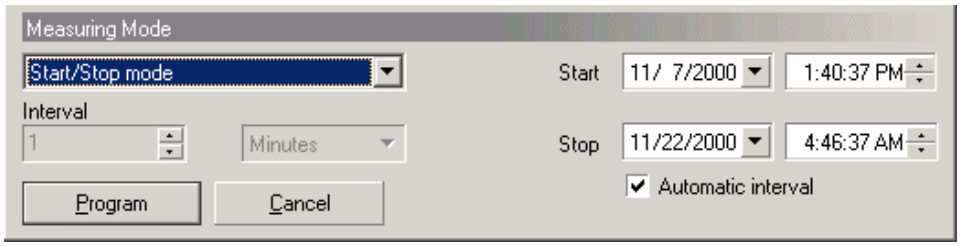


Fig. 110 Program logger: Measuring mode Start-Stop

In this mode, there are two options:

a. Automatic interval
Here, the ***Interval*** field is inactive. This means that the logger tries to completely fill its memory for the preset period of time. The appropriate measuring interval is determined automatically. To achieve this, check the box ***Automatic Interval***.

b. Variable interval

If you want to make a measurement with a fixed interval and certain start and stop points, un-check the box ***Automatic interval***. You can now set both interval and start/stop points:

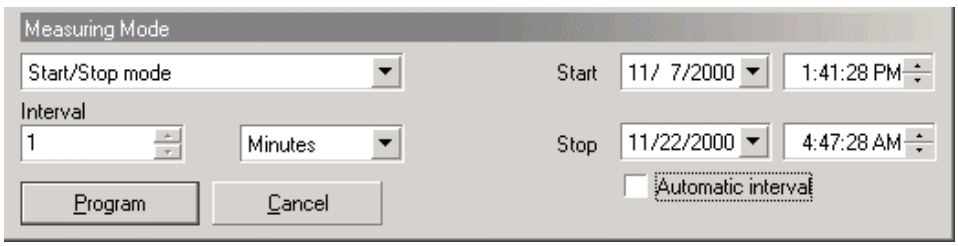


Fig. 111 Program logger: Measuring mode Automatic interval

To set the start and stop times, proceed as follows:

Entering the date:

If you click on the symbol next to “Start“ or “Stop", the following panel opens:

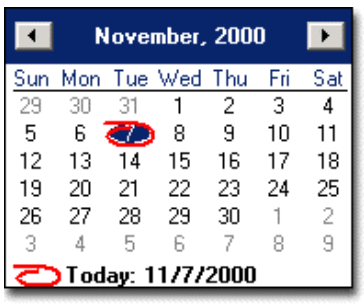


Fig. 112 Program logger: Entering date

Select the date to start measuring.

You can turn the pages of the calendar with the buttons to change the month.

Entering the time:

If you want to set the time, mark the hours with the mouse, as shown in the next figure. With the buttons, you can set the hours to the desired values.

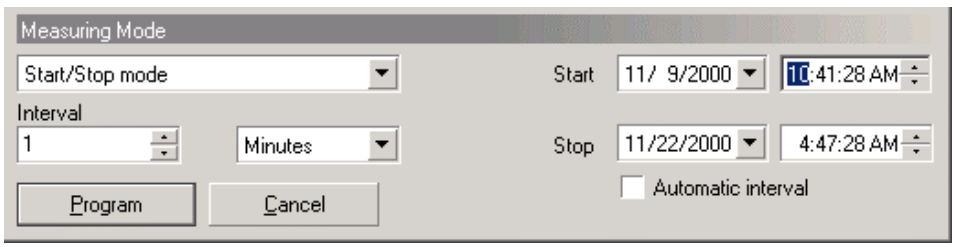


Fig. 113 Program logger: Entering time

Proceed in the same way with the minutes and seconds. This applies both to the start time and the stop time.

Loggers programmed in this measuring mode will begin measuring and recording at the start time entered. The recording continues until the stop time has been reached.

6.2.3.2.3 Start time and interval measurement

If you have chosen the start time and interval measurement, you will see this:

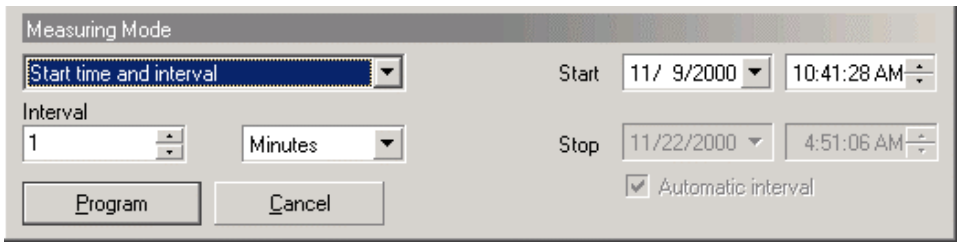


Fig. 114 Program logger: Start-interval measurement

You can edit only the interval and the start time.

Loggers programmed in this measuring mode will begin measuring and recording at the start time entered. The recording will continue until the logger memory runs out of space. The calculated stop time is displayed in the inactive stop field.

To set the start time, proceed as follows:

Entering the date:

If you click on the symbol next to “Start“, the following panel opens:

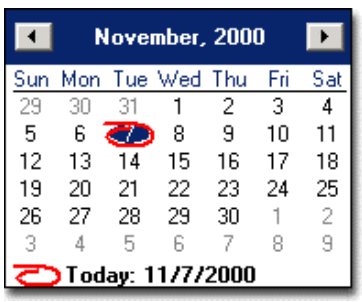


Fig. 115 Program logger: Entering start date

Select a day to start measuring.

You can turn the pages of the calendar with the buttons to change the month.

Entering the time:

If you want to set the time, mark the hours with <LMC>, as shown in the next figure. With the buttons, you can set the hours to the desired values.

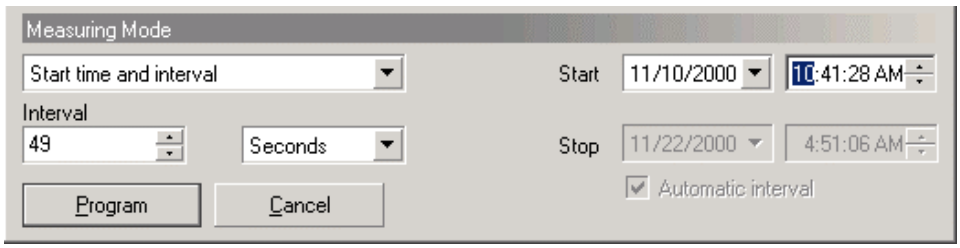


Fig. 116 Program logger: Entering start time

Proceed in the same way with the minutes and seconds.

6.3 Starting the logger

Now that you have prepared the logger for programming, you should once again check all inputs for correctness and completeness.

All measured data stored in the logger will be irreparably lost when reprogramming!

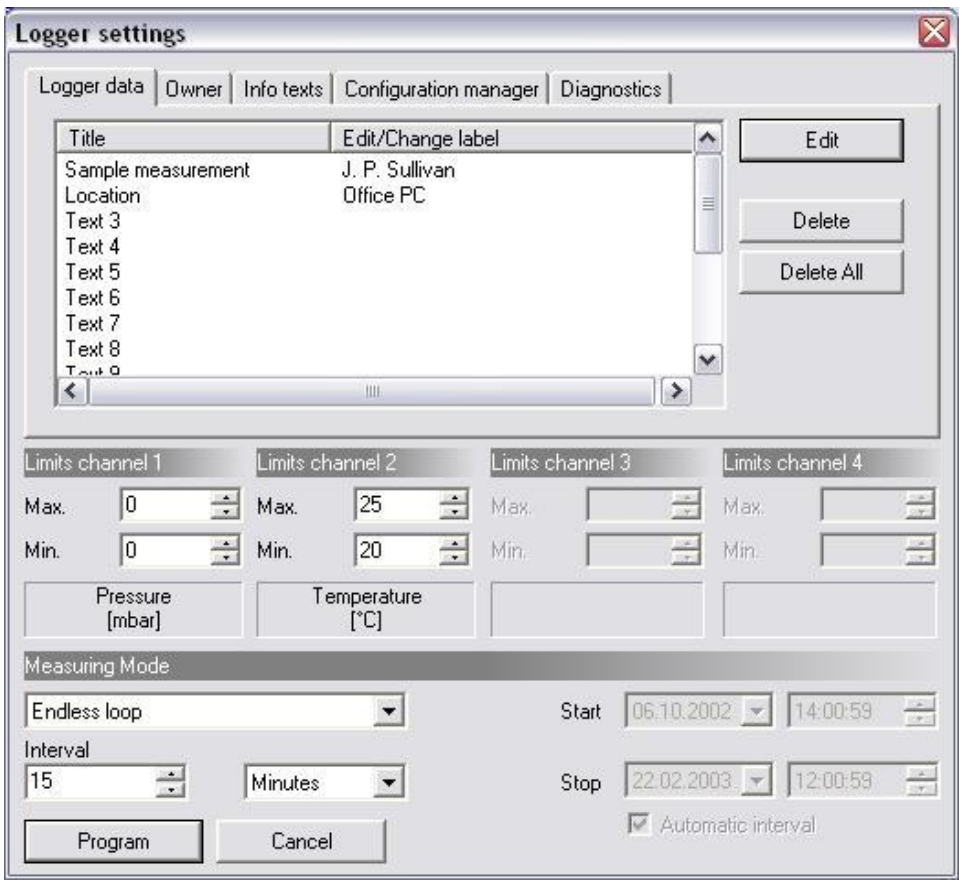


Fig. 117 Program logger: Completed dialog mask

If all information is correct, you can program and start the logger with a <LMC> on the ***Program*** button.

First, a safety inquiry appears:

Fig. 118 Program logger: Safety interrogation

If you are not sure, click on the "***No***" button. Now you can decide what applies to you.

Fig. 119 Program logger: Read logger data?

If you answer ***Yes***, the logger will be read-out, and you can store the measured data. Immediately after the storage, the logger is automatically programmed.

If you answer ***No***, the program returns to the programming dialog.

However, if you are sure you want to program the logger after the safety inquiry, click on ***Yes*** in the message in "*Fig. 118 Program logger: Safety interrogation*".

The programming procedure takes approximately 5 seconds and begins with the following message:

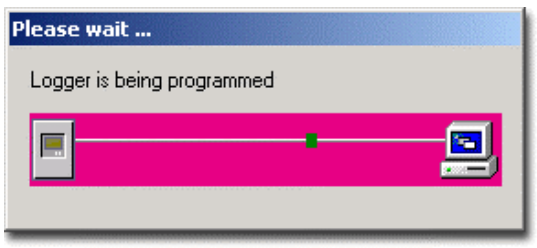


Fig. 120 Program logger: Logger is being programmed

After successful programming, following message is displayed:

ebi20
Programing succeeded and the logger has been restarted. Remember to remove the logger out of the interface resp. to disconnect the logger from your computer in order to assure a correct measurement.
OK

Fig. 121 Program logger: Successful programming

The logger is ready for measuring and storing the measured values.

The measurements and the storage of the measured values in the ***End-less*** measuring mode start immediately after the programming.

In the measuring modes ***Start-Stop*** and ***Start-Interval***, the storage of the measured values starts at the indicated time.

7 Logger read-out

7.1 Premises

In order to be able to evaluate the measured data recorded with a logger, it is necessary to read out the contents of the logger memory.

The logger memory contains the entered owner data, the text fields and the measured values.

For the readout, this logger must be connected with the PC. Depending on the logger type, the corresponding interface or data cable must be connected to the PC (see chapters 3.1, 3.2, and 7.1).

Connection of series EBI 85A or EBI 125A loggers

Place standard loggers (series EBI 85A or EBI 125A types) into the interface.

Connection of series EBI 2 and EBI 3 loggers

With loggers using an RS 232 interface (series EBI-2 and EBI-3 types), first remove the protection cap from the RS 232 socket on the backside of the logger. Now connect the data cable to both logger and PC.

7.2 Logger read out

7.2.1 Starting the read out

Click the ***Read out*** icon with <LMC> in the main panel of *WINLOG 2000* to start this operation.

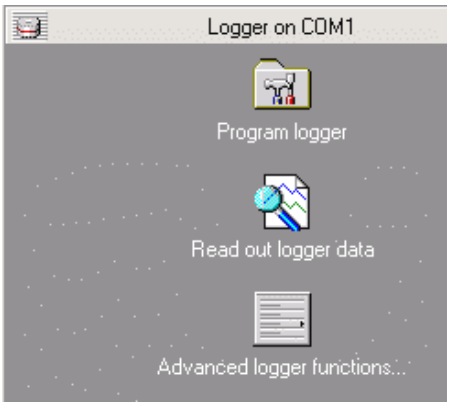


Fig. 122 Readout: Menu

If the logger is properly connected, following message will appear:

Fig.123 Readout: Logger data are read-in

7.2.2 Readout of system, user and measured data

At the same time, a progress bar is visible in the status line of the *WINLOG 2000* main panel, which shows the status of the readout.

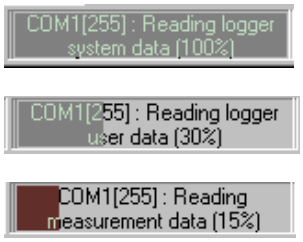


Fig.124 Progressing graphic bar

The readout time depends on the number of measured values stored. It may well be that the readout of one logger take 15 minutes or longer.

When all data have been read out, they are stored for safety reasons before the evaluation.

7.3 Saving the data

To avoid any data loss, the read data are saved first.

A dialog box with a default storage folder and file name appears.

Fig.125 Saving: File name

7.3.1 Folder

The default folder depends on the settings in chapter 5.3.3. The default installation folder of the *WINLOG 2000* software is:

C:\Program Files\Ebro Elektronik\EBI *WINLOG 2000*_COM1.DEV\ LokalerLogger.LOG\archived.ebi

Of course, you can select any other folder (for instance C:\Data\July2002).

If this folder doesn't exist yet, you will be asked if it should be created.

Fig.126 Saving: Create directory

If you answer this question with ***Yes***, then the file is saved in the newly created directory.

If you answer this question with ***No***, then you are taken back to "*Fig.125 Saving: File name*", where you can change the inputs again.

You can also select the destination folder in a different manner: you can click on the ... button at the right of the input field.

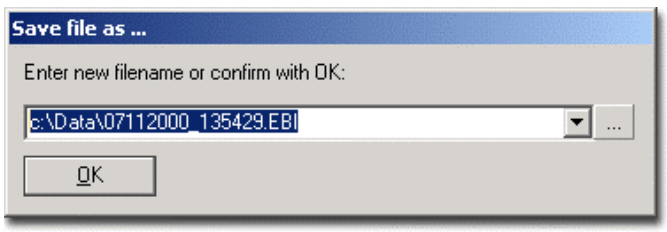


Fig.127 Saving: Directory dialog box

In the folder tree of your computer which is now displayed you can select the appropriate folder and confirm with ***OK***.

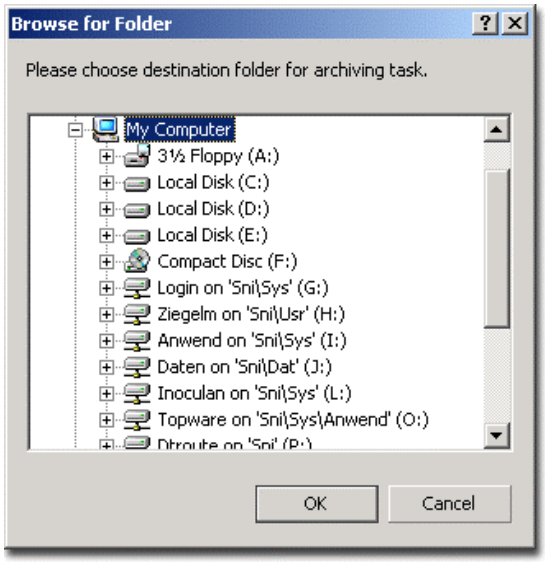


Fig.128 Saving: Directory tree

WINLOG 2000 can not create folders with more than one level. Select only one folder level, if the desired folder doesn't exist yet. For instance, select C:\EBI and not C:\EBI\DATA.

7.3.2 File name

As default setting for the file name, a so-called time-stamp is used.
It consists of date and time of the logger readout, written as a sequence with the suffix **EBI**.

Example:

06072002_145443.EBI

This file was read-out on July, 6th 2002 at 14:54 hours and 43 seconds.

Of course, you can use any other file name, respecting the Windows file name conventions.

The file suffix "EBI" is automatically added to the file name. You don't need to enter it manually.

If your measured data have been successfully saved, a new panel opens.

In this panel, the measured data is represented in a graphic display (see Fig. 132).

7.4 Printing measured data

You can make a printout by clicking on the printer icon or by selecting the ***Print*** option with <LMC> in ***File – Menu***.

You first see following dialog:

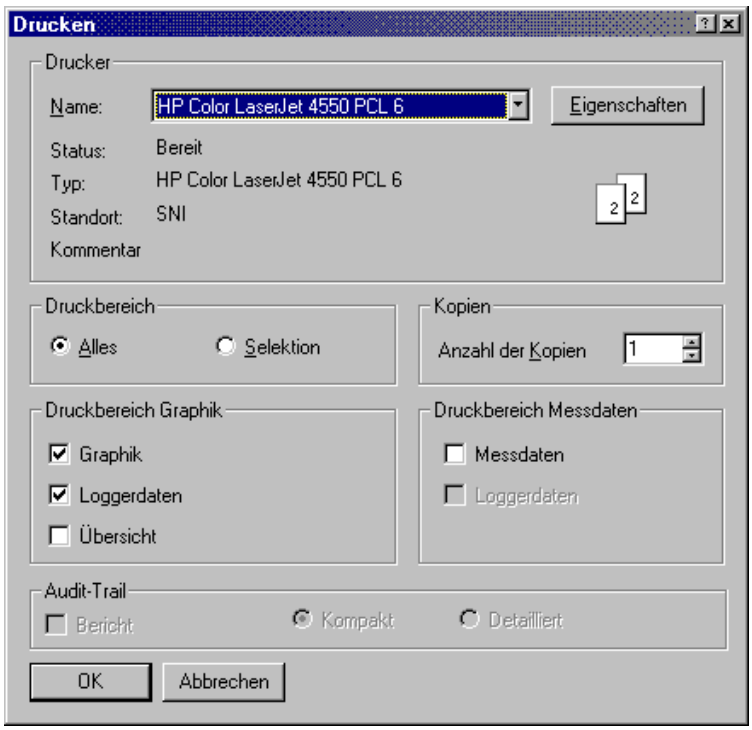


Fig.129 Print - Dialog box

In order to be able to print-out your measured values, *WINLOG 2000* needs to know which data to print. Mainly there are four different printable data formats:

- The measured values in graphic form (diagrams)
- The measured values in tabular form (table)
- The logger data (owner, user text)
- The graphic overview

You must now select which data are to be printed and how they should be arranged.

Printer

Select your printer here. With a click on ***Properties***, you can set printer-related properties (see chapter 5.4.1.1).

Printing range

Select ***All*** for printing all open documents, or ***Selection*** for printing only the document selected at present.

Printing range Graphics

Select one or more of the following options, in order to adapt the graphic printout to your requirements:

Graphics: Select this option if you want the measured values to be printed as a diagram.

Logger data: Select this option if you want the logger data (owner data, user text, ...) to be printed in addition to the measured values on the same sheet.

Overview: This option is only active if you have checked the ***All*** field in the printing range field. If you select this option, an overview of all available curves is printed on an extra sheet in addition to the diagrams.

Printing range Measured data

Measured data: Choose this option, if you want to print the measured values as a table.

Logger data: Select this option if, in addition to the measured values, you want to print the logger data (owner data, user texts, ...) on the same sheet.

Copies

Enter here the number of copies you need.

Audit trail

This option is described in chapter 12.3.3 (CFR 21 Part 11 version).

7.5 Exporting measured values

This option is described in detail in chapter 9.3.15.

8 Processing of measured values

After saving the measured data, you now have their graphic display on the screen.

8.1 The time/measured values diagram

The diagram represents the curves of all measured documents opened.

WINLOG 2000 is capable of representing up to 32 curves at the same time. However, it is only possible to work with a maximum of 4 X-axes and a maximum of 4 Y-axes. This means that the curves to be represented should, if possible, all have the same time and unit references.

In the diagram, the Y-axis is the measured value axis, whereas the X-axis is the time axis.

Due to the internal logger identification, the Y-axis is automatically labelled with the correct unit.

In chapter 10.3.6 you will see that in the Professional version of *WINLOG 2000* it is possible to use and administrate other units.

As an example, let us take a 1-channel temperature logger. This logger produces following graphic display:

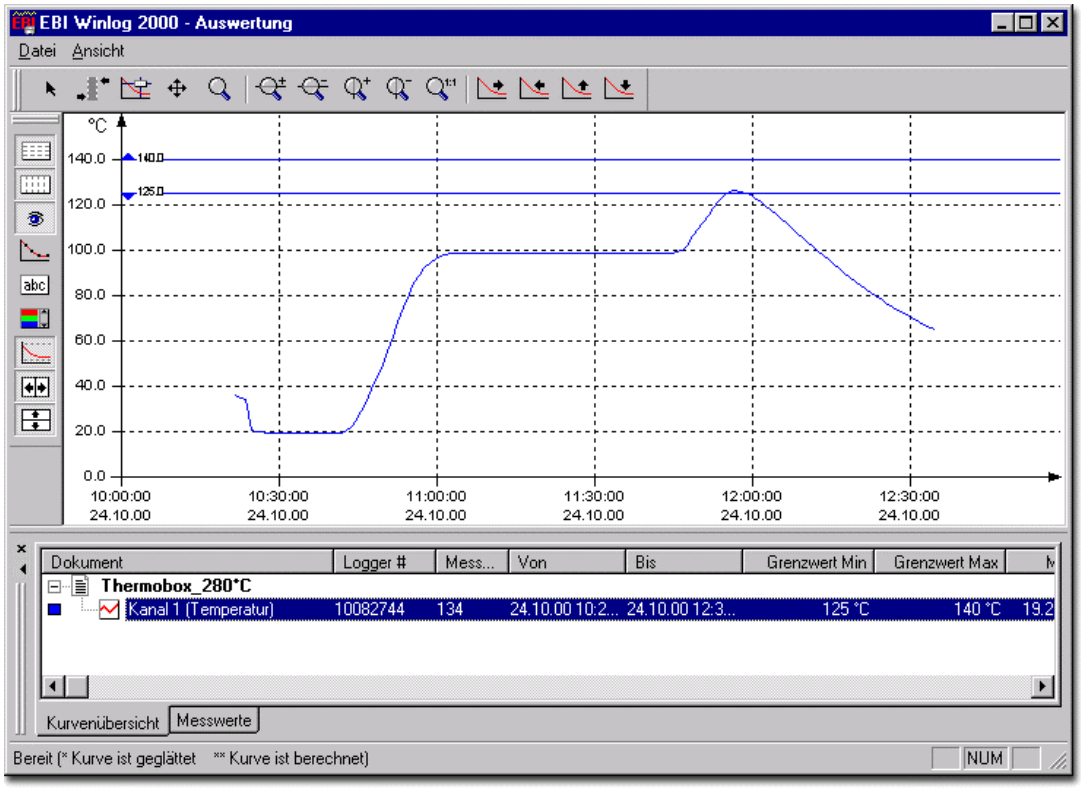


Fig.130 Graphic display: Graphic representation of the measured values incl. limits

8.2 Changing the diagram via tool bars

In the diagram you can see several icons at the left and at the upper margin of the screen. This row of icons is called “toolbar”. It enables you to adapt the graphic display to your requirements.

To use the toolbar, you must first select a curve of measured values which you are going to work with.

8.2.1 Selecting curves

8.2.1.1 Represented curves

Below, you can see a listing of the represented loggers and their cha nnels. In our case, it looks as follows:

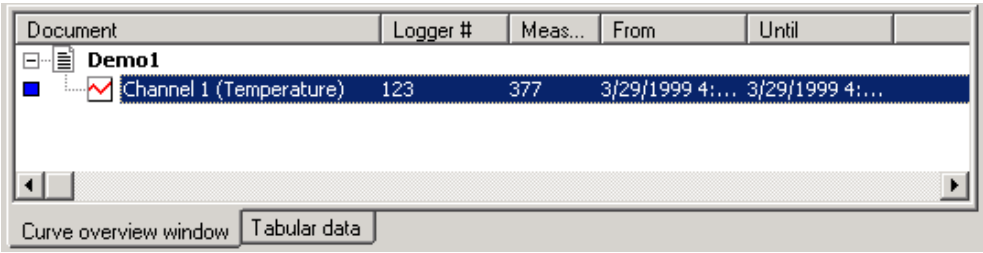


Fig.131 Graphic display: Selection of documents

You can see the name of the represented file in bold letters. The line under the file name represents the corresponding measuring cha nnel.

In a different case (two documents in the same graphic), this selection of curves can look as follows:

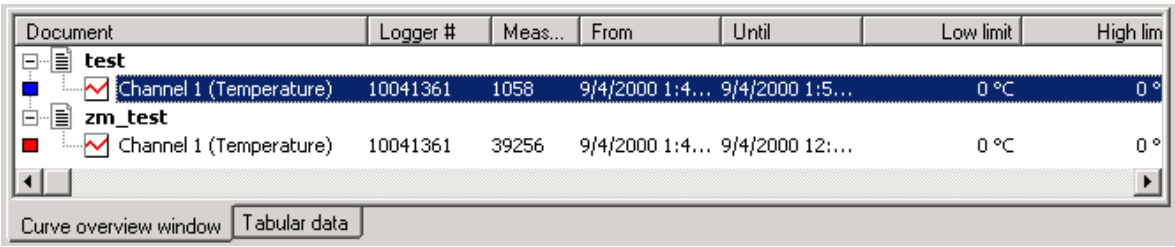


Fig.132 Graphic display: Selection of documents with several files

8.2.1.2 Statistical values

In this overview of curves, you can see various information regarding the logger (start of measurement, end of measurement, logger number, limit values, and some statistical information).

Here is an overview of the displayed information:

Logger #
The serial number of the logger which generated this document of measured values.

Measured values
How many measured values are displayed.

From
The start time of the measurement.

To
The stop time of the measurement.

Minimum limit
The minimum limit value during the measurement.

Maximum limit
The maximum limit value during the measurement.

Minimum
The lowest measured value during the complete measurement.

Maximum
The highest measured value during the complete measurement.

Average
The calculated arithmetic average of all measured values.

Variance
The calculated variance of all measured values.

Standard deviation
The calculated standard deviation of all measured values.

Max. diff.
The difference between Minimum and Maximum.

Period of time (Max. diff.)
Period of time between the reaching of Minimum and Maximum.

Time above Maximum
Period of time during which the measured values were above the maximum limit.

Period of the measurement
The total period of time of the measurement.

The calculated and displayed statistical values always refer to the saved curve, and not to the one displayed. If you change them by zooming, the statistical values remain unchanged.

As soon as a range of the curve has been marked, all statistical values in the curve overview refer only to the marked range.

8.2.2 Horizontal toolbar (Diagram functions)

This toolbar contains the main functions for changing the diagram. Select a curve in the curve overview and then click on one of the buttons in order to perform the corresponding function.

Fig.133 Tool bar: View

8.2.2.1 Open file

A left mouse click opens the default data folder (see chapter 6.3.3).

8.2.2.2 Save file as …

This function saves the file as a workspace (see chapter 9.4).

8.2.2.3 Print

A click on this icon opens the printing dialog.

8.2.2.4 Selection tool

The selection tool has several functions. If a range has been marked in the diagram, then the marked range can be shifted with this tool. With this tool you can also shift text legends if there are any. When this function is active, it deactivates other functions.

8.2.2.5 Selecting the range

Click on a point in the diagram with <LMC> and keep the key pressed. Then move the mouse to the right or to the left. You can see how a range is marked in the diagram.
To finish the marking, release the mouse key. Each document can administrate a range which refers to all channels (curves) in the document. As soon as a range has been marked, all statistical values in the curve overview refer only to the marked range.

8.2.2.6 Scanning the curve

This tool serves to scan the diagram for measured values.

In the diagram appears a vertical line, which indicates the position of the cursor, and a panel, which displays the measured values for all channels of the document at this position.

The cursor can be moved with the mouse or with the transport bar . In addition, the present position of the cursor is displayed in the table of measured values.

8.2.2.7 Dynamic shifting

The dynamic shifting enables you to shift all curves according to the movement of the mouse to the left, to the right, upwards or downwards with a left mouse click in the diagram (do not release the mouse key!).

8.2.2.8 Zooming

With this function, you can select a range to enlarge.

For this purpose, click on a point in the diagram with <LMC> and keep the mouse key pressed. Then move the mouse in order to define a rectangular selection range (symbolized with a dashed line). When the left mouse key is released, the selected range is enlarged.

8.2.2.9 Enlarging the curve size on the X-axis

This tool serves to enlarge the momentarily selected curve in the X-direction.

8.2.2.10 Reducing the curve size on the X-axis

This tool serves to compress the momentarily selected curve in the X-direction.

8.2.2.11 Enlarging the curve size on the Y-axis

This tool serves to enlarge the momentarily selected curve in the Y-direction.

8.2.2.12 Reducing the curve size on the Y-axis

With this tool, the momentarily selected curve is reduced in the Y-direction.

8.2.2.13 Re-establishing the original size

This tool serves to display all curves in their original size.

8.2.2.14 Shifting curve to the right

8.2.2.15 Shifting curve to the left

This tool serves to shift the momentarily selected curve to the right or to the left.

8.2.2.16 Shifting curve upwards

8.2.2.17 Shiffting curve downwards

This tool serves to shift the momentarily selected curve upwards or downwards.

8.2.2.18 Units

This tool enables you to administrate measurement units. It is only available with the Professional, the BUS, and the CFR 21 Part 11 versions (see chapter 10.3.6).

8.2.3 Vertical toolbar (Diagram properties)

This tool bar contains the main functions for changing the properties of the diagram.

Select a curve in the curve overview and then click on one of the buttons of this toolbar, in order to execute the corresponding function.

Fig.134 Vertical tool bar

The individual functions are explained in the following.

You can always call the online help with the F1 key.

8.2.3.1 Activating/deactivating Y-axis grid lines

With this button you can control if horizontal auxiliary lines appear in the diagram.

When this button is pressed, the scaling marks on the Y-axis appear in the diagram. This setting is valid for all curves and axes.

8.2.3.2 Activating/deactivating X-axis grid lines

With this button you can control if vertical auxiliary lines appear in the diagram.

When this button is pressed, the scaling marks on the X-axis appear in the diagram. This setting is valid for all curves and axes.

8.2.3.3 Activating/deactivating the curve

With this button (eye symbol) you can control whether a curve of measured values is visible in the diagram or not.

For activating or deactivating a curve, select the corresponding curve in the curve overview.

Click on this button to display or to hide the curve.

This function has no effect on the table of measured values. Even the hidden curves appear in the table of measured values.

8.2.3.4 Displaying/blinding out limit values

This function enables you display the limit values of the document in the diagram.

For this purpose, select the curve which you want to work with. Then click on this button to show or hide the limit values.

8.2.3.5 Activating/deactivating the curve marker

With this function you can set so-called markers on the individual curves.

Markers are symbols drawn on the curve in equal distances, which enable you to better distinguish the individual curves (when several curves are simultaneously displayed in one diagram).

This is particularly useful if you want to print the diagram, but you don't have a color printer.

For activating or deactivating the curve markers, select the corresponding curve in the curve overview.

Click on this button, in order to display or hide the markers.

8.2.3.6 Activating/deactivating the autoscaling of the X-axis

As a standard, the scaling of an axis is set such that even values appear if possible (e.g. 18:00, 19:00, 20:00 or 50°C, 60°C, 70°C).

When zooming or shifting a curve, *WINLOG 2000* also tries to use even values for scaling, if possible.

If this behavior is not desired, you can switch on or off the autoscaling separately for the X- and Y-axis.

This button activates/deactivates the autoscaling for the X-axis.

8.2.3.7 Activating/deactivating the autoscaling of the Y-axis

Here also, the scaling of an axis is set such that even values are visible, if possible.

When zooming or shifting a curve, *WINLOG 2000* tries to use even values for scaling, if possible.

If this behavior is not desired, you can switch on or off the autoscaling.

This button activates/deactivates the autoscaling for the Y-axis.

8.2.3.8 Changing curve colors

With this function, you can define the color of a curve.

Select the corresponding curve in the curve overview and click on this button. The following dialog appears:

Select a color with a click of the left mouse-key.

Confirm with <LMC> on "***OK***". The color of the curve will change.

8.2.3.9 Inserting a label (legend)

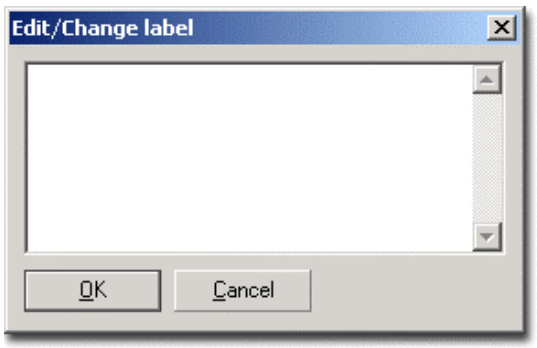
This function allows you to insert so-called labels in the diagram. This is useful, for instance, for marking certain points on the curve.

You can insert a total of up to 32 labels in a diagram.

For inserting a label, first select the curve on which the label should appear.

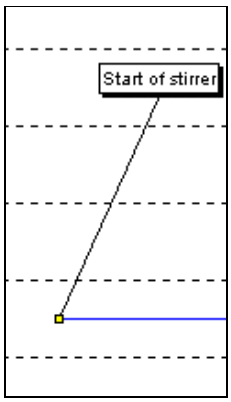
Click on the button for the legend.

Enter the label text into text field which then appears.

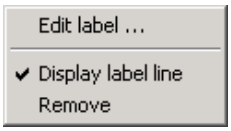


Then confirm with a click on "***OK***".

You will get a label similar to the next figure.



If you click on a label with <RMC>, the following menu appears:



Choose ***Edit label****... ,* in order to change the text.

Choose ***Display label line***, in order to display or hide the line connecting the label to the curve.

If you want to remove the label, select ***Remove*****.**

Tip: For shifting the connection point of the connection line to the curve, click once with <LMC> on the corresponding label.

The label is now represented with a green frame.

Move the mouse cursor over the connection point.

Pull the connection line to the desired point on the curve.

8.3 Context menu

In the curve overview, all momentarily opened documents are listed with their channels. This overview serves to display statistical values for the respective channels, on the one hand, and to prepare certain actions by selecting a channel, on the other hand.

You must always first select a curve. Directly from here, you have access to many functions of the diagram via a context menu.

For this purpose, select the curve with which you want to carry out an action, and then press the right mouse-key.

The following menu appears:

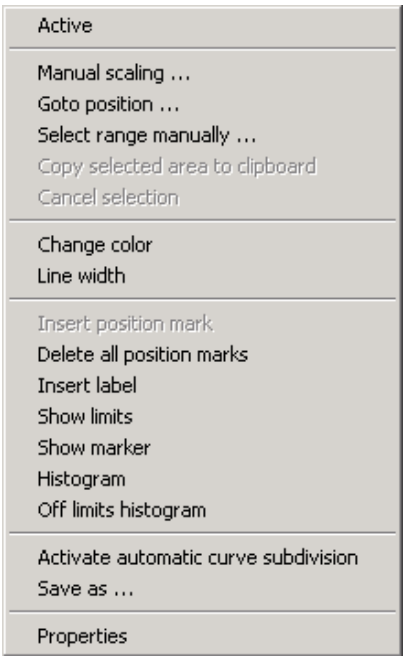


Fig.135 Context menu

8.3.1 Active

This menu point has the same function as the button in the vertical tool bar.

With this menu point, you can control if a curve in the diagram is visible or not. Select the corresponding curve in the curve overview for activating or deactivating a curve, and then click on this menu point, in order to display or hide the curve. The function has no effect on the table of measured va lues, i.e. hidden curves still appear in the table of measured values.

8.3.2 Manual scaling of axes…

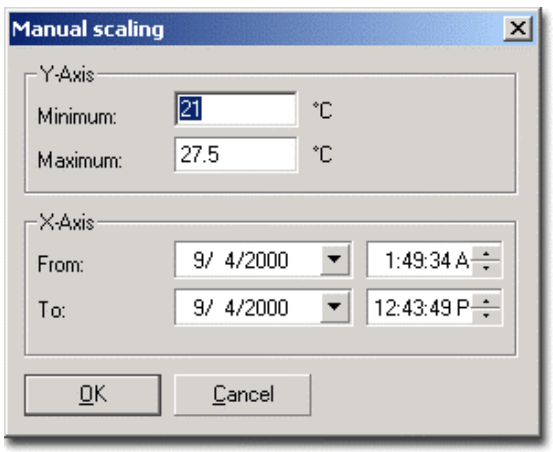


Fig. 136 Manual scaling of axes

Here you can scale the X- and the Y-axis manually with the ranges you want to see.

8.3.3 Go to position …

This function allows you to place the scan cursor on a certain point of the curve. This dialog appears for the selection of the point:

In this dialog, you can exactly position the trace cursor on a certain point of your curve of measured values.

For this purpose, select your option with the mouse and then click on ***OK***.

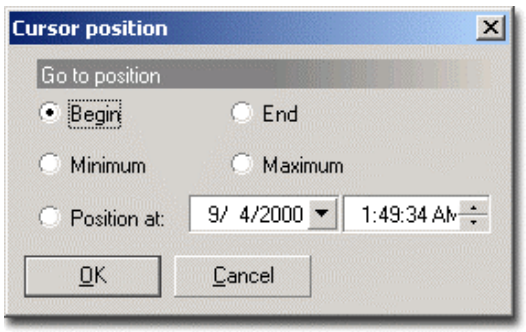


Fig.137 Positioning of the cursor

Start Places the cursor on the first measured value.

End Places the cursor on the last measured value.

Minimum *WINLOG 2000* searches for the minimum of this curve and places the cursor on this point.

Maximum *WINLOG 2000* searches for the maximum of this curve and places the cursor on this point.

Position Places the cursor on the position you have indicated.

8.3.4 Select range manually

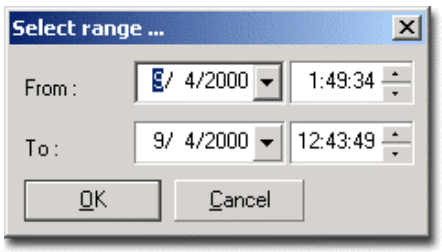


Fig. 138 Manual selection of the range

This function allows you to manually select a range of the active curve.

This dialog appears for the selection of the range.

For this purpose, indicate the date/time of the beginning and the date/time of the end.

Then click on "***OK***".

The indicated range is then marked in the diagram.

8.3.5 Copying marked range to the clipboard

This menu point only becomes active after you have selected a range. The measured values marked are then copied to the clipboard of Windows. You can then continue to process the measured values in other programs (e.g. Excel).

8.3.6 Curve color

This menu point has the same function as the button. You can change the colors of the measured curves in this menu.

8.3.7 Line width

With this function, you can change the line width of individual curves in the diagram.

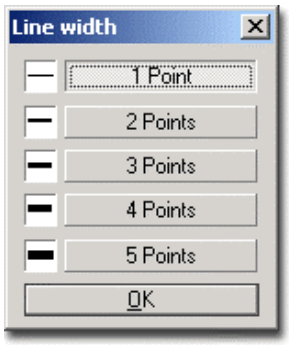


Fig. 139 Line thickness

This is useful, for example, if the curves of a diagram appear very thin on the printout of a high-resolution printer. Simply select a thicker line.

You can define the line thickness separately for each curve of a diagram. For this purpose, select the desired line thickness with the mouse and then click on "***OK***".

8.3.8 Inserting a legend

This menu point has the same function as the abc button.
For more details, see chapter 8.2.3.

8.3.9 Displaying limit values

This menu point has the same function as the button. For more details, see chapter 8.2.3.

8.3.10 Displaying the marker

This menu point has the same function as the button. For more details, see chapter 8.2.3.

8.3.11 Histogram

When calling this menu point, a histogram appears. The histogram gives you the possibility, to evaluate the statistical distribution (occurrence diagram) of your measured values.

You can use the histogram to obtain a classification and a clear representation of large data volumes which normally occur when working with loggers.

The histogram in *WINLOG 2000* shows the relative (percentage above the bar) and absolute (Y-axis) frequency of measured values within the calculated classes (intervals). You have no possibility of selectively influencing the number of the represented classes (intervals), since *WINLOG 2000* automatically calculates the optimum representation. By enlarging or reducing the size of the panel, however, you can change this representation.

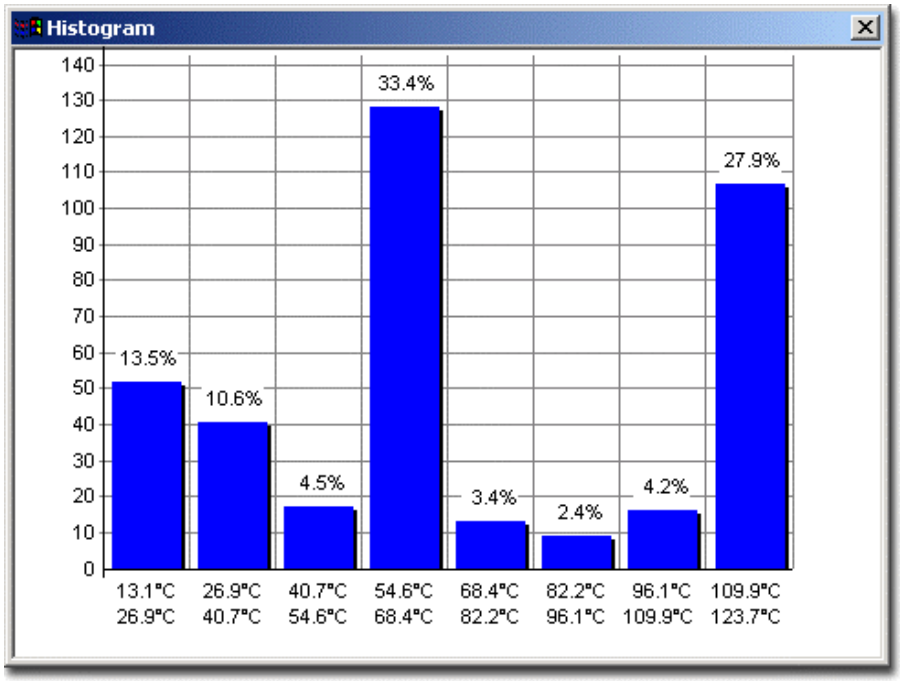


Fig.140 Histogram

This representation is to be understood as follows:

- The range -22.2°C to -15.6°C comprises 70.3% of the measured values
- The range -15.6°C to -9.0°C comprises 16.3% of the measured values
- etc.

If you stretch the graphic display with the mouse, you obtain a different distribution of the temperatures.

For this purpose, move the mouse cursor onto the right vertical margin of the display.

The mouse cursor is transformed into this symbol: ?

With the left mouse-key, you can pull the margin to the right.

Thereby, you obtain an enlargement of the histogram and a different distribution of the sections.

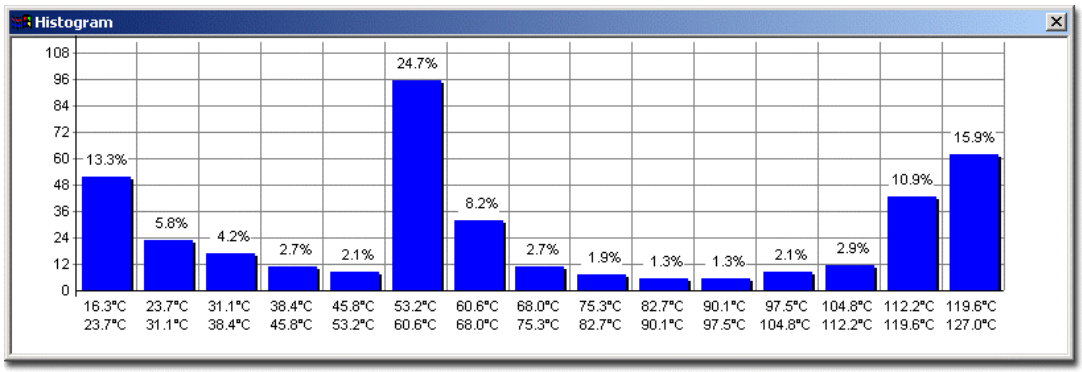


Fig.141 Enlarged histogram

8.3.12 Limit value histogram

The limit value histogram enables you to evaluate the statistical distribution (occurrence diagram) of the violations of the limit values. The histogram in *WINLOG 2000* shows the relative (percentage above the bar) and absolute (Y-axis) frequency of violations of limit values within the calculated time intervals.

You can't influence the number of the represented classes (intervals), since *WINLOG 2000* automatically calculates the optimum representation. By enlarging or reducing the size of the panel, however, you have the possibility to change this representation.

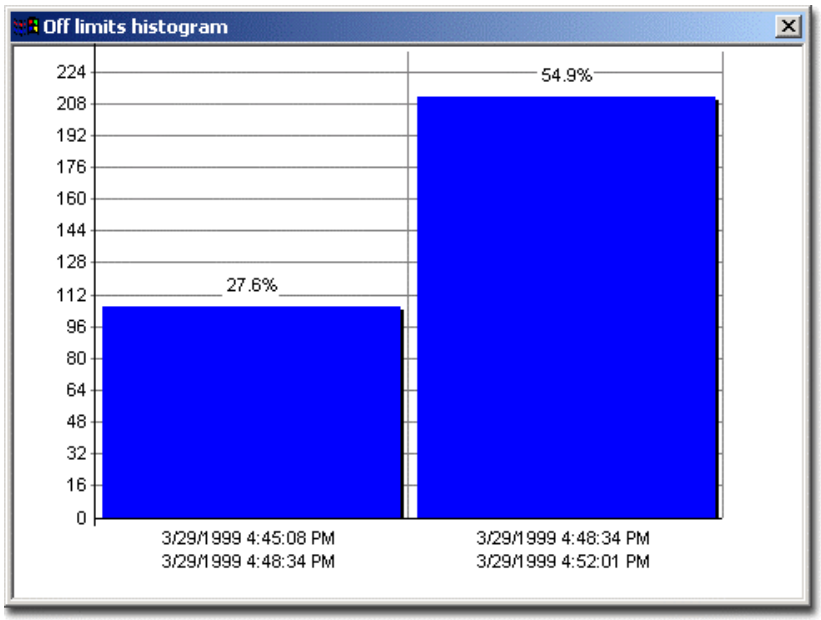


Fig.142 Limit value histogram

This representation is to be understood as follows:

- In the range from 09/29/2000 12:32:58 PM to 09/29/2000, 22.5% of the violations of limit values are to be found.

- In the range from 09/29/2000 2:34:06 PM to 09/29/2000 4:55:14 PM, 0.0% of the violations of limit values are to be found.

Changing the graphic display

Stretch the graphic display with the mouse.

For this purpose, move the mouse cursor onto the right vertical margin of the display.

The mouse cursor is transformed into this symbol: ?

With the left mouse-key, you can pull the margin to the right.

Thereby, you obtain an enlargement of the histogram and a different distrib u-tion of the time sections.

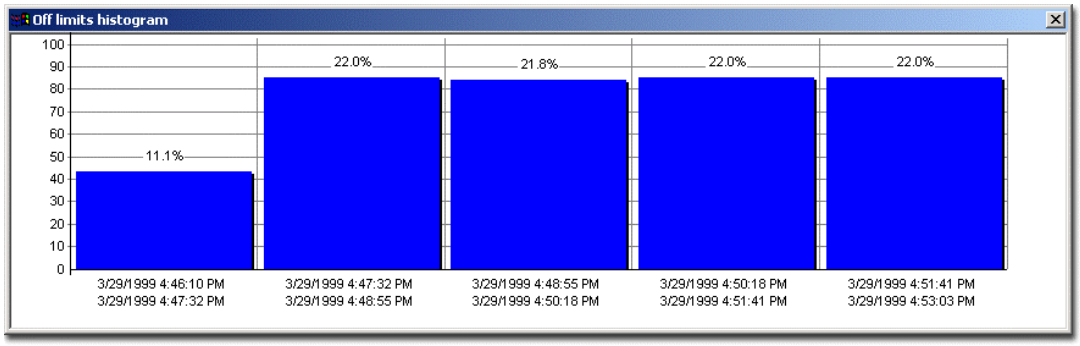


Fig.143 Enlarged limit value histogram

8.3.13 Automatic splitting

For demonstration purposes we opened another document.

In this dialog, you can “divide” a curve into several individual curves. This is useful, for example, if you have a long period measurement and you want to evaluate the different ranges in the curve (see example below) individually.

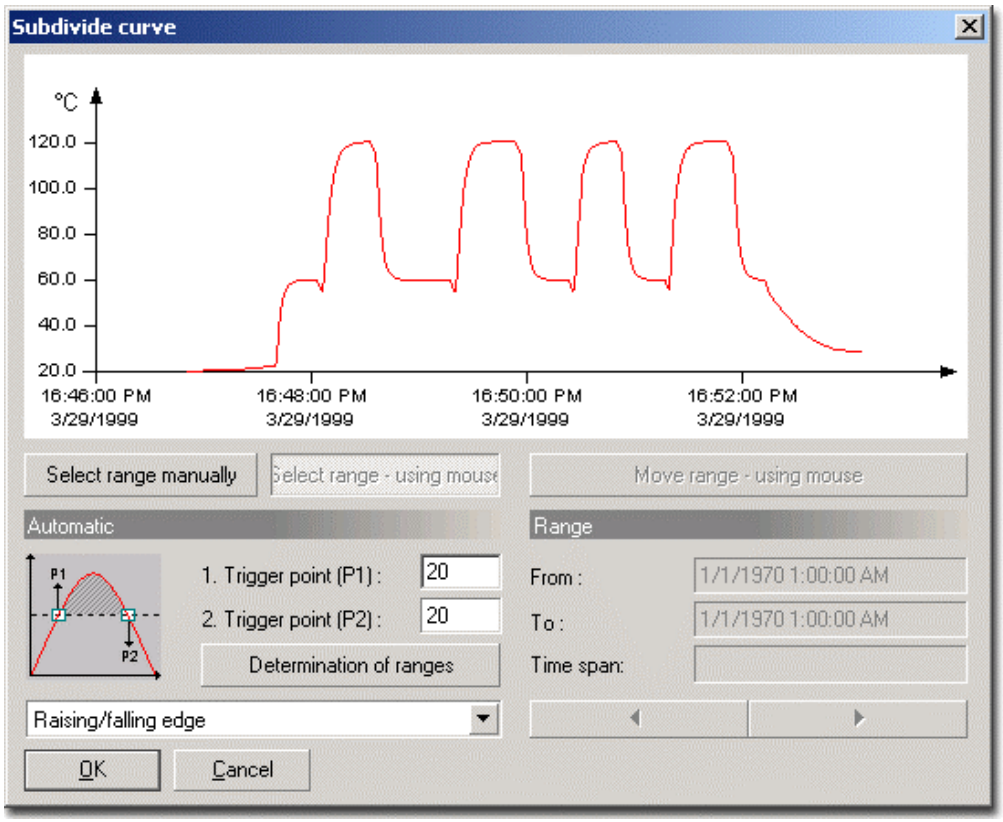


Fig.144 Automatic splitting

There are two possibilities for dividing such a curve into partial curves:

a. Automatic range determination

If you have a curve similar to this example, you can have the individual ranges determined automatically.

For this purpose, indicate two trigger points (P1 and P2) and select the mode of range determination (rising/falling edge or falling/rising edge). Then click on the button "*Determine range*".

WINLOG 2000 then scans the curve from left to right and checks if the momentary measured value is greater or smaller than the value defined in P1 (depending on the mode of the range determination).

If *WINLOG 2000* finds such a value, it marks it as the start value for the range. Then, the scan is continued to determine if the value in P2 has been reached.

If this value is also found, then the *WINLOG 2000* software marks this value as the end of the range and searches the curve for further ranges.

When the check is finished, you can see in the "*Range*" section, how many ranges *WINLOG 2000* has found.

Using the left arrow or the right arrow, you can have the ranges displayed.

b. Manual range determination

You can also define a range in the curve manually. For this purpose, mark a range in the curve with the mouse.

After defining the ranges, click on "***OK***". Then the curve is decomposed into the number of defined ranges.

For each range, a new file is created. The naming convention for these range files is: original file name plus a figure between 1 and 255.

Example:

You define 10 ranges in a curve.

The original file is named "test.ebi".

The individual files created thereupon are named “test1.ebi", "test2.ebi", etc.

8.3.14 Save as…

You have the possibility to save each of the opened documents.

This function refers to the document, of which you have selected the curve.

You can save the document as EBI (*.EBI), in Excel format (*.XLS) or as a text file (*.TXT).

8.4 Work space

8.4.1 Save the work space as

Normally, logger data are saved as a file in binary format with a file name and the suffix **EBI**.

When this file is opened again, you see the stored measured values as a normal graphic display.

If you have also entered legends with descriptive texts in this graphic display, you will want to save them as well for later use.

The following figure (Fig. 147) shows a temperature curve with legends.

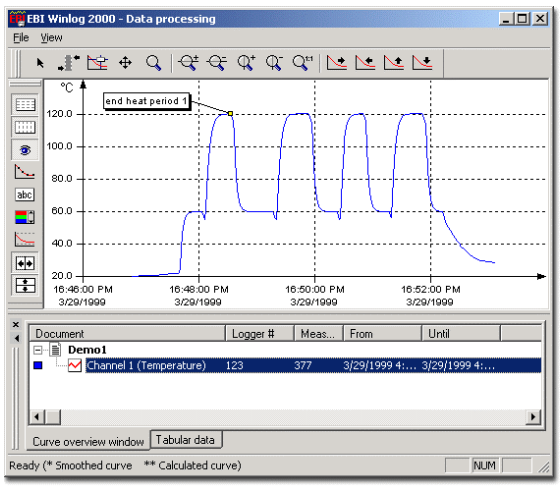


Fig.145 Example: Inserted legends

You can save this graphic display as a working range. For this purpose, click on ***Save workspace as…***

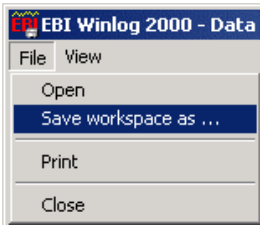


Fig.146 Saving the working range

The dialog box for directories is opened.

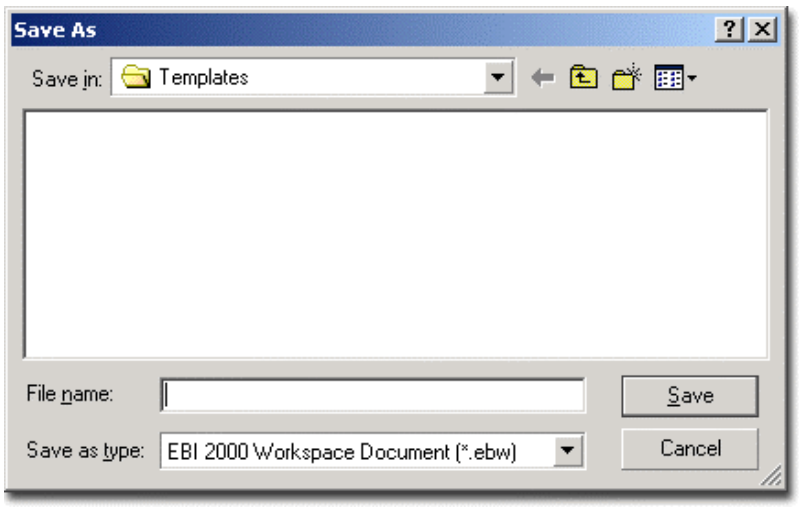


Fig.147 Directory for saving files

Enter a file name and confirm the saving with <LMC> on ***Save***.

WINLOG 2000 automatically adds the suffix **EBW**. So you need not enter it when typing-in the file name.

8.4.2 Open the work space

To open a saved workspace file (***File name.ebw***), go to ***File – Open work-space*** in the main menu.

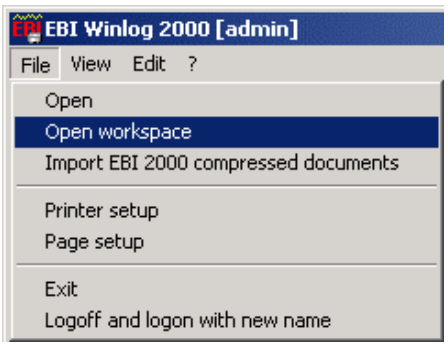


Fig.148 Opening the working range

The measuring curve is now displayed with its legends (see Fig. 147).

9 Working with WINLOG 2000 - P (Professional)

The functions described in this chapter are only available in this version and in the higher versions (*WINLOG 2000-B* and *WINLOG 2000-V*). They are extensions of the standard software.

Purchase and installation of the Professional version

This software version can be purchased or installed in two different ways.

9.1 Purchasing the Professional version

You have decided to purchase the Professional version from the start.

In this case, install the software as described in chapter 4.

After the installation, the Professional version is available on your computer. You can now use all the additional functions described in this chapter.

Of course, all functions of the Standard software are still available.

9.2 Upgrading to the Professional version

You have already familiarized yourself with the Standard version of *WINLOG 2000* and now you would like to upgrade to the Professional version.

You need to purchase the activation code for the installation of the “Professional version” program module from ***ebro*** or your retailer.

Since you have already installed the Standard version of *WINLOG 2000*, you can register the new program module very easily.

The procedure is very precisely described in chapter “5.4.1.2 Adding program modules“.

9.3 Additional functions compared to the Standard version

9.3.1 Password request

In the Professional version, but also in the BUS and 21 CFR Part 11 versions, the access to the software is protected with a password. At the program start, you will see following dialog box:

Fig.149 Password request: Dialog box

Enter “**admin**“ for ***User name*** and for ***Password*** as well, both times without the quotation marks and in small letters.

By confirming with a click on ***OK***, you can access the program.

Cancel ends the program.

The user can be attributed a new name and new rights, as described in chapter 9.3.3.

A maximum of eight user names can be entered.

9.3.2 Input screen

New in comparison with the Standard version are the icons or menu bars marked with an arrow in the input screen.

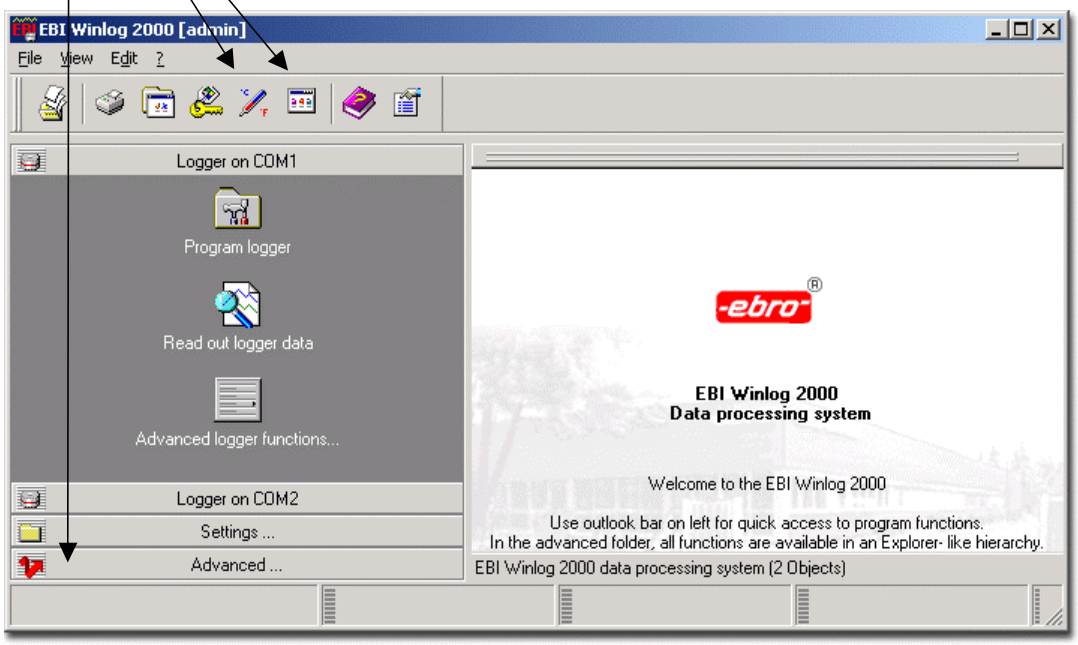

EBI Winlog 2000 [admin]
File View Edit ?
Logger on COM1
Program logger
Read out logger data
Advanced logger functions...
Logger on COM2
Settings ...
Advanced ...
EBI Winlog 2000
Data processing system
Welcome to the EBI Winlog 2000
Use outlook bar on left for quick access to program functions.
In the advanced folder, all functions are available in an Explorer- like hierarchy.
EBI Winlog 2000 data processing system (2 Objects)

Fig.150 New functions in the PROFESSIONAL version

If you compare this dialog box with that of the Standard version in chapter 5.1, you can recognize the additional functions described in the following sub-chapters.

The main panel of *WINLOG 2000* is divided into two ranges. In the left, you can see a so-called Outlook-bar. This section serves for easy navigation inside the program.

In the right half of the main panel, you can see an Explorer-like tree representation in case of a registered plug-in for the professional or BUS version.

9.3.2.1 The Outlook bar

The elements of the Outlook bar

The Outlook-bar is divided into so-called folders. You can change the active folder by clicking on the folder to be opened (menu field) with <LMC>.

9.3.2.1.1 Folder: Logger on COMx

After starting *WINLOG 2000*, the program automatically checks which serial interfaces are available in your system. If *WINLOG 2000* finds a free serial interface, it is displayed as a folder (text line) in the Outlook-bar. (Logger to COM1, Logger to COM2, etc.). In this folder, the main functions for working with loggers are immediately accessible:

Programming

Readout

In addition, you have the possibility to get access to extended logger functions by clicking on the ***Advanced*** button.

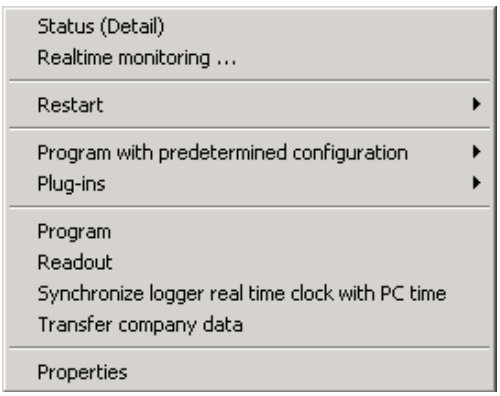


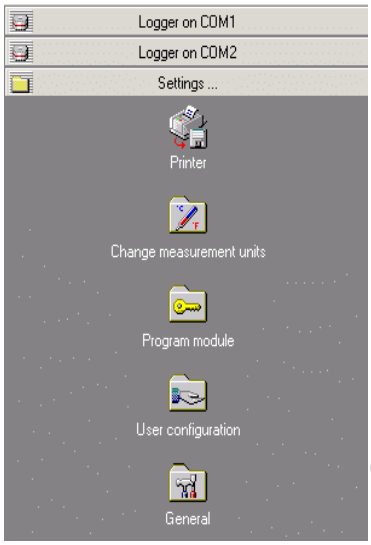
Fig.151 Functions of Advanced ....

These functions have already been described in detail in chapter 7.

9.3.2.1.2 Folder Settings

In the Settings folder, you have access to the main settings of *WINLOG 2000*.

On the following pages, you will find a description.



Printer — Opens a dialog for configuring the connected printer (chapter 5.4.1.1)

Units — Opens the units administration (chapter 9.3.6)

Plug-ins — Opens the program-module administration (chapters 5.3.3 and 9.2)

User — Opens the user administration (chapter 9.4.2)

General — Opens the dialog for manipulating the general settings (in this chapter)

Fig.152 Settings

The individual points are described in the indicated chapters.

The dialog box ***Settings*** offers a few additional possibilities compared to the Standard software.

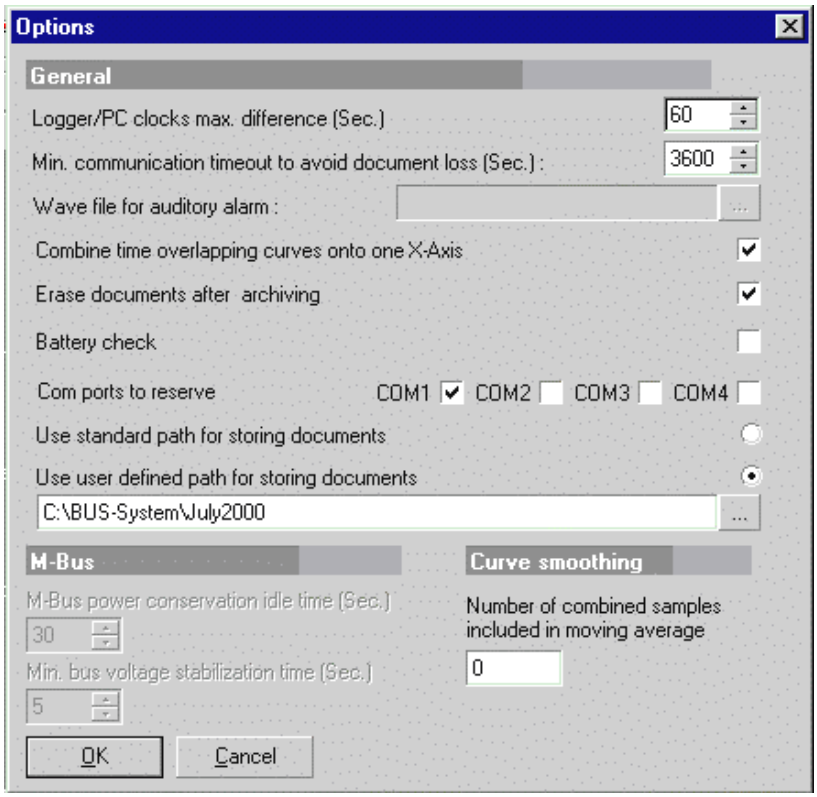


Fig.153 Settings: Dialog box

In addition to the functions known from the Standard version, the following functions have been added:

Signal in case of max. time deviation of the logger
If the real-time clock in the logger deviates by more than the set value from the PC clock, you receive a hint in the software version *WINLOG 2000 BUS*. See chapter 10.7. *Fig.224 Scheduler: Alarm control.*

This hint only appears if the corresponding alarm function is activated.

Timeout for lost documents
Here, you define the number of seconds until Timeout is signaled.

Wave file for the acoustic alarm
Enter the path and the name of a **WAV**-file, here in the text line. Alternatively, you can click on the ***More...*** button and search in the opening directory-tree.

Comprising documents with the same time references on one X-axis
If you have started several logger at the same time and also stopped them at the same time, their measured values can be displayed very easily.

Here, you can define if only one X-axis is created for the representation of all measured values of the loggers in a graphic display.

Delete documents after archiving
In the professional and in the BUS version, you can compress stored files to approximately 1/10 of their size in a new working cycle.

Thereby, the new files are stored in a directory of your choice. Here, you can determine if the original files are to be deleted after compressing.

9.3.2.1.3 Folder: Advanced

In the ***Advanced*** folder, all elements of *WINLOG 2000* are listed in a hierarchic form (similar to Windows Explorer).

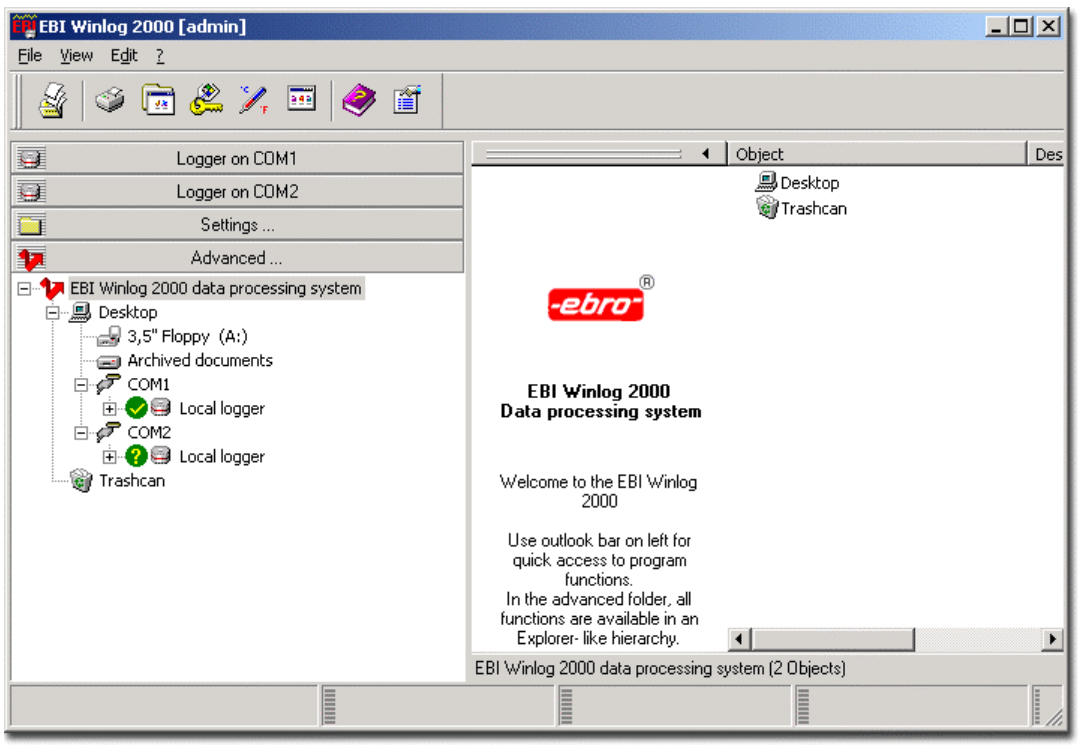


Fig.154 EBI - Explorer

With a simple click on an entry in the EBI-Explorer, the contents of the clicked-upon object are displayed in detail on the right side.

9.3.2.2 EBI-Explorer

In this example, you can see the contents of the "COM2" entry: The local logger (either connected via an EBI interface or directly connected with an RS232 cable) and the EBI Bus-system. If you click on an entry with <RMC>, the respective pop-up menu appears with all the functions available, which can be used for the selected entry.

The entries of the EBI-Explorer and their signification

9.3.2.2.1 3 ½" diskette

With a click on this entry, the contents of the diskette in drive A: appear in the right half of the panel.

Only **EBI** files are displayed.

9.3.2.2.2 Archived documents

With a click on this entry, the contents of the **Archived documents** folder appear in the right half of the panel. This folder is always available and cannot be deleted. Here, read-out measurement files are stored.

9.3.2.2.3 COM1 ... COM4

With a click on this entry, the contents of the selected interface appear on the right half of the panel. For each interface, there is a corresponding logger ("Local logger") and, with a registered Bus plug-in, the EBI Bus. With a right mouse-click, the following menu appears:

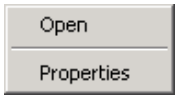


Fig.155 COM1 menu

9.3.2.2.4 Local logger

This entry represents the logger connected to the overriding interface.

With <RMC>, the following menu appears:

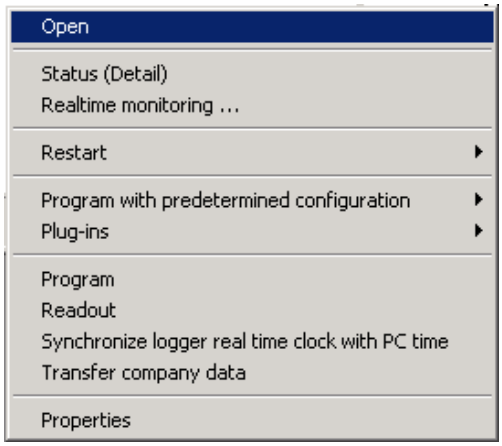


Fig.156 Local logger: Context menu

Each logger entry (local logger as well as all Bus loggers symbolized by an entry in the EBI Explorer) has its own status symbol.

This symbol allows you to recognize the status of the logger at a glance.

For determining the logger status, click once with the left mouse-key on the corresponding logger in the EBI Explorer.

9.3.2.2.5 The following status symbols are possible:

The status of the logger has not been determined yet.

The logger is OK. There is no further status information available.

The logger could not be addressed to yet.
The logger is either not properly connected or defective.

The logger has got a reset. You should read-out this logger and then start it anew.

The battery of the logger is almost flat.

The logger does not measure.

Move the mouse cursor over this symbol and wait for approx. 0.5 seconds. *WINLOG 2000* then displays further status information for you.

A violation of a limit value has been signaled.

The clock of the logger deviates from the clock of the PC.

9.3.2.2.6 Trashcan

In the Trashcan, all the documents you have deleted are administrated, since *WINLOG 2000* does not destroy the deleted files permanently. Only if you delete files from the Trashcan, these will be irreparably erased.

This Trashcan is not identical with the Windows Recycle Bin!

9.3.3 User administration

WINLOG 2000 offers you the possibility to create user profiles. This is useful, e.g. when several persons work with *WINLOG 2000*, but not everyone is allowed to use the same functions.

The setup for users can only be done with the corresponding authorization.

So it is feasible, that there is a user who is allowed to read-out a logger, but not allowed to program it.

In order to avoid that this person can program a logger, you can set-up a new user, who has only the right for "Logger readout".

So when this person logs-on under his name when starting *WINLOG 2000*, he only obtains access to the "Logger readout" function. All other functions are disabled for this user.

With a <LMC> on the icon, the following dialog box opens:

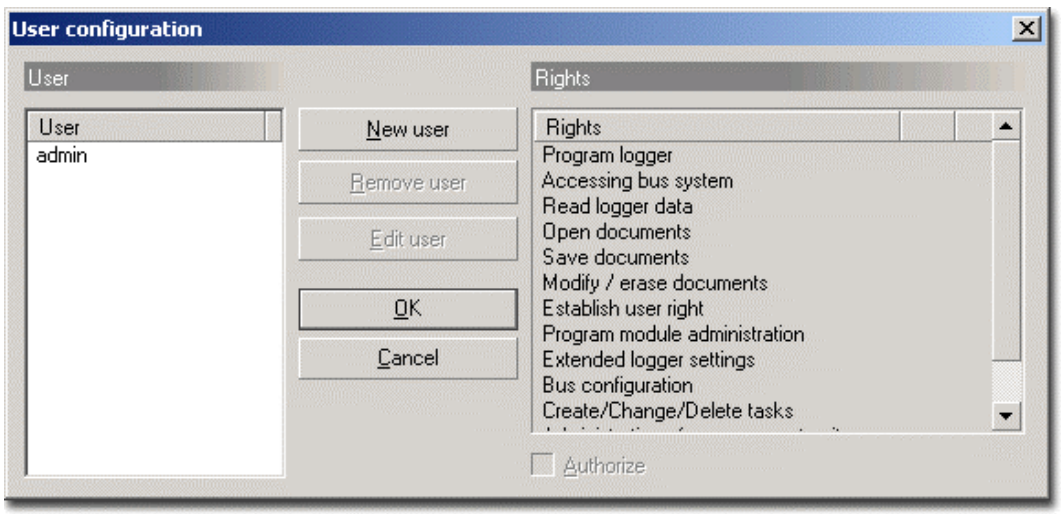


Fig.157 User administration

9.3.3.1 Creating a new user

With a <LMC> on ***New user*** you first define the name and the password of the new user.

Fig.158 New user: Dialog box

Here, you can enter the user name, the password and the confirmation of the password.

Please note that it is possible to enter up to 255 characters per field.

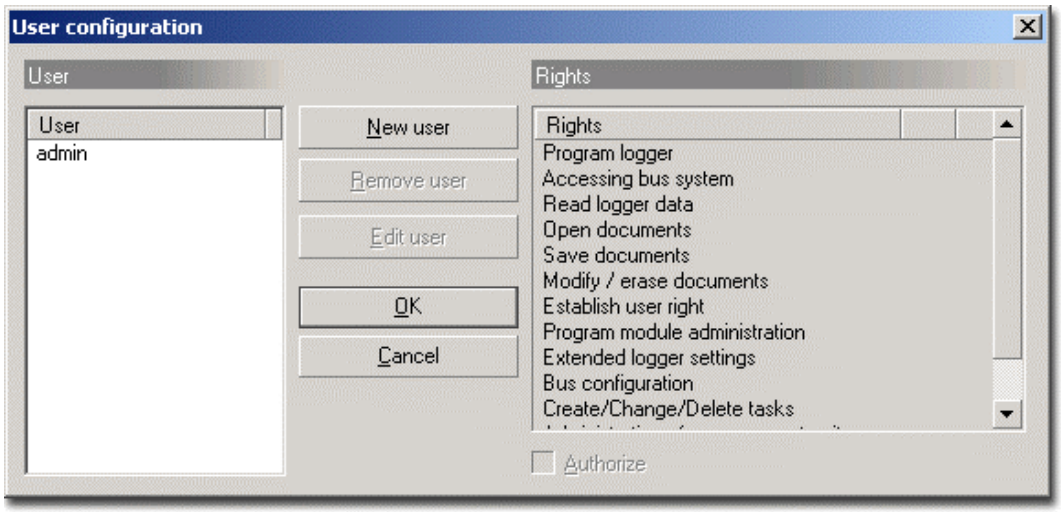


Fig.159 New user: filled-in

Click on "***OK***" for storing your entries.

9.3.3.2 Granting rights to a new user

In the next figure, the new user now appears. In order to give him corresponding rights, proceed as follows:

Select the new user in the user list (left list).

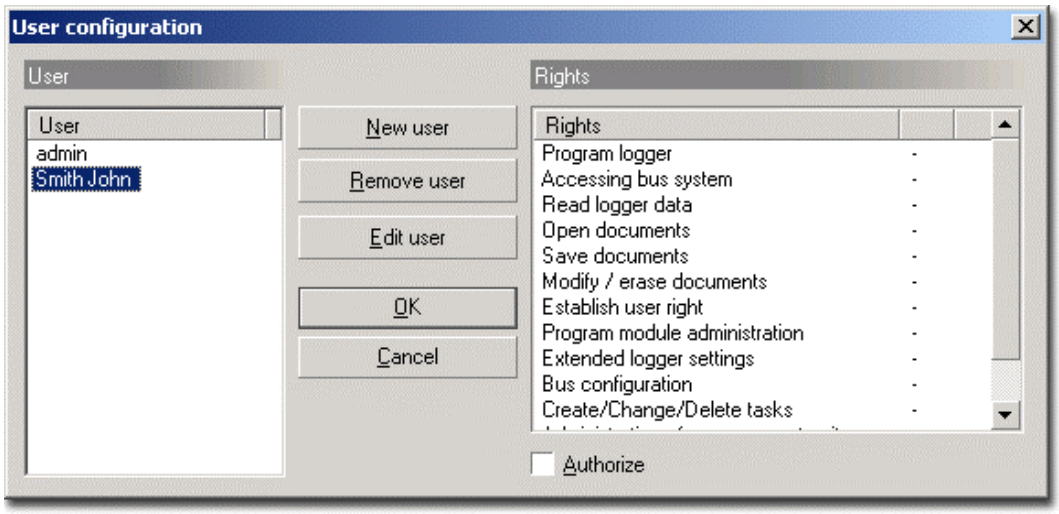


Fig.160 New user: Granting rights

Now, in the right panel and using the left mouse-key, select the function which, in our example, “Smith John“ is allowed to execute, e.g. ***Program logger***.

Place a hook in the ***Give authorization*** box with a <LMC>. Since “Smith John“ is also allowed to store documents, click on ***Save documents*** and place the hook.

The confirmed rights are displayed with **OK** in the dialog box.

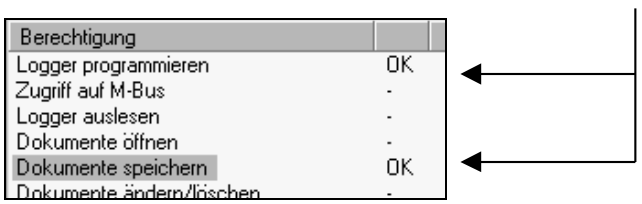


Fig.161 New user: Granting rights, example

With a click on ***OK***, the rights are taken over.

Mr. “Smith John“ can now log-on in *WINLOG 2000* with his password.

9.3.3.3 Changing the rights of an user

For this purpose, call the user administration with a <LMC> on . See “Fig.150 New functions in the PROFESSIONAL version“.

Click on the corresponding right in the right function field, and activate or deactivate it with the hook next to ***Give authorization***.

You can confirm the changes with a <LMC> on ***OK***.

9.3.3.4 Deleting an user

Choose a user in the user list (left list).

Then confirm with <LMC> on ***Delete user*** . The user is then deleted.

Attention: It is not possible to delete the first user (admin) from the list.

9.3.3.5 Changing the passwords

The passwords can be changed at any time.

Call the user administration with a <LMC> on .

With a <LMC> in the left field, select the user whose password you would like to change. Click on ***Manipulate user***.

This dialog appears:

Fig.162 Changing the user entry

Here, you can enter a new password in the ***Password*** field, enter this once more in the “Password configuration” field and activate with <LMC> on ***OK***.

9.3.4 User-defined functions

9.3.4.1 Default formulas (templates)

WINLOG 2000 offers you the possibility to perform calculations with the opened curves, i.e. with measured values. For this purpose, you can use formulas, so-called templates, which were delivered with the *WINLOG 2000* program.

You have a rapid access to formulas already edited by simply selecting the corresponding formula from the list of formulas.

Some pre-defined formulas are included in the delivery, e.g. F-value calculation, PE-value calculation, etc.

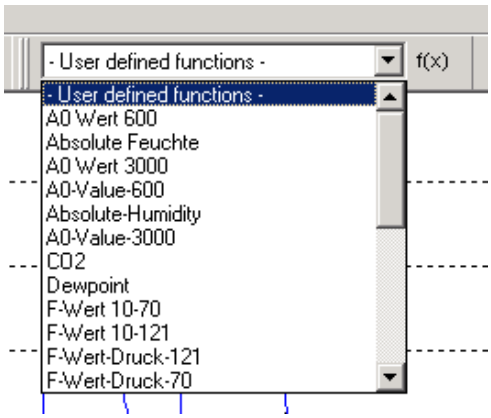


Fig.163 User-defined functions

For using a formula already edited, first select the curve for which you would like to perform a calculation.

Example:

For our example, we have chosen a temperature curve. For this curve, the F-value 10-70 should be calculated.

First, we load the temperature curve. You can see it in the figure on the next page.

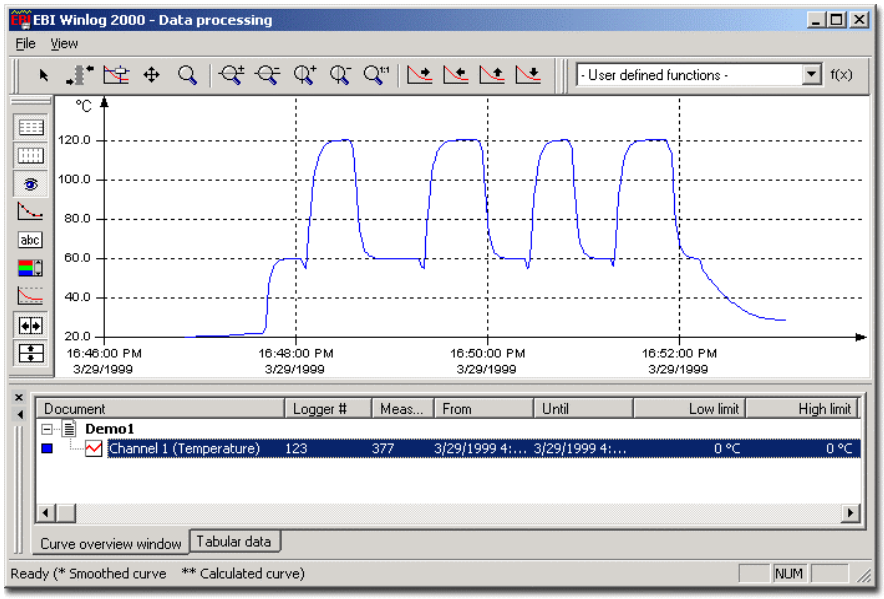


Fig.164 Example-curve for a template

Now select the corresponding formula from the list.

Fig.165 User-defined functions

With a <LMC> on the small triangle, a menu with default formulas appears.

With <LMC>, select the formula for ***F-value 10-70***.

The program now calculates the F-value curve. This is signaled by the display of a progress bar:

Fig.166 Display of a progress bar

When the calculation is finished, the graphic display is redrawn. Compared to "*Fig.164 Example-curve for a template*", the F-value curve is additionally displayed.

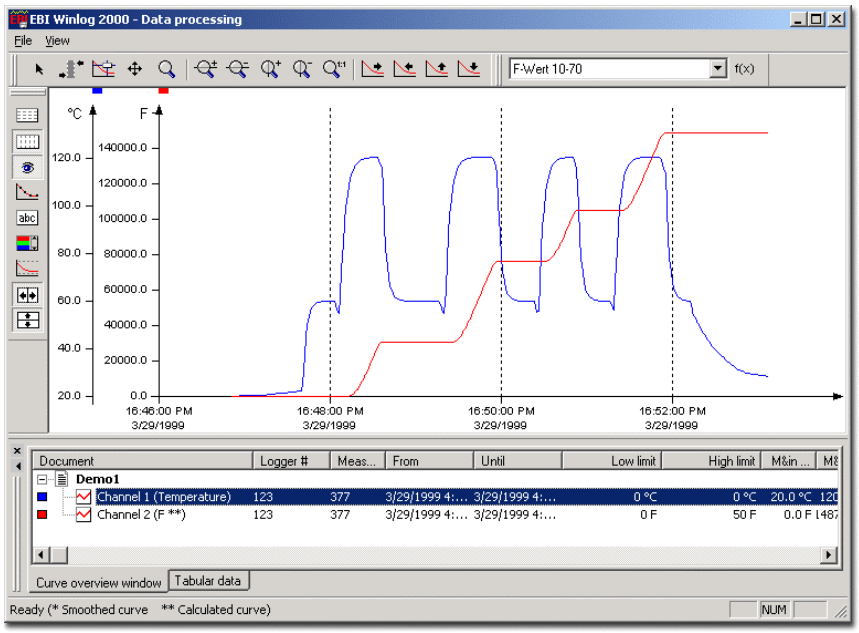


Fig.167 Example-curve temperature - F-value

You see that the calculated F-value curve has its own scale.

In the lower part of the figure, the F-value is now referred to as channel 2. After the designation **F** you can see two asterisks **.

As described in chapter 5.3.3 "Smoothening of curves", it is therewith indicated that the curve has been calculated.

Also when you print-out the graphic display, in the description of the channels, the **F** is provided with two asterisks.

You can print-out the graphic display. If you want to save the graphic display of the temperature together with the F-value curve, you must do it via the ***Work space*** menu.

For detailed information, see chapter 8.4.1.

9.3.4.2 Formula editor: Editing existing formulas

WINLOG 2000 enables you to perform your own calculations with the open measured value curves. For your own calculations, you must use formulas which you can edit with the formula editor.

For editing a formula, first select the curve for which you would like to carry out a calculation.

Then press the ***f(x)*** button.

First, an empty dialog box appears:

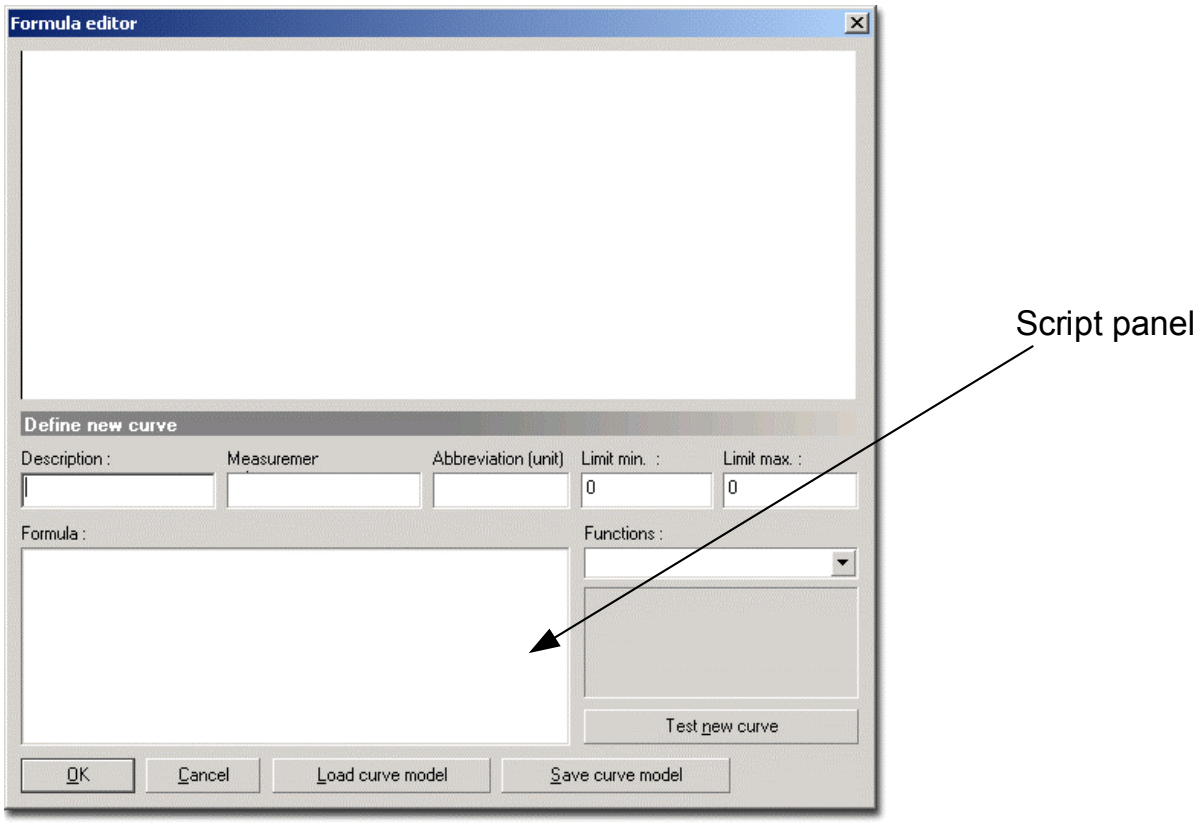


Fig.168 Formula editor: Empty dialog box

Now you can load a default template. Various default templates are avai lable in the directory \EBI *WINLOG 2000*\TEMPLATES.

Select the desired template with <LMC> on ***Load curve model***.

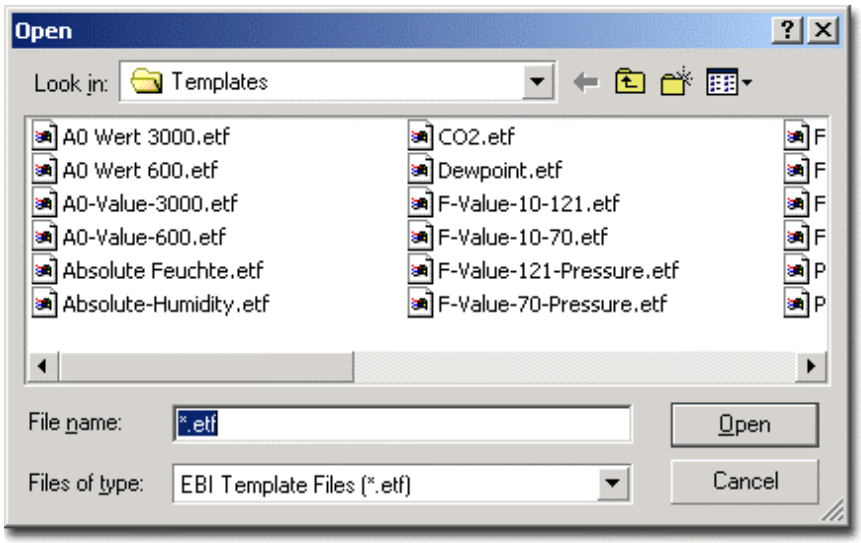


Fig.169 Formula editor: Path for templates

Then you will see the following dialog box:

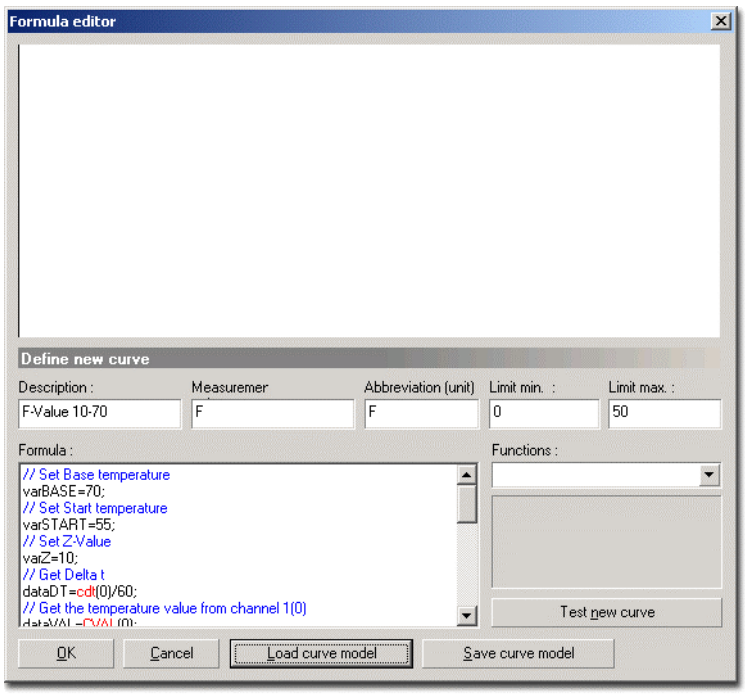


Fig.170 Formula editor: Dialog box with template

If, for example, you want to change values for the start of the calculation or temperature thresholds, you can do this in the lower left panel (the so-called script panel).

Additionally, the following fields can be filled-in:

Designation
Enter a designation for your calculation formula, here.

Unit
Enter the desired unit of the created curve, here.

Unit (Grammalog)
Enter the grammalog of the unit, here. This grammalog then appears next to the Y-axis of the calculated curve.

Limit value min.
You can use the limit values for prescribing set-values for your calculated curve.

So it is for example feasible, that you indicate the value 500 as the min. limit value for an F-value formula.

You can then recognize at a glance on the graphic display, if the calculated F-value exceeds this limit.

Limit value max.
See limit value min.

Functions
In this list, all mathematical functions available are listed.

A description and explanation of these functions can be found in chapter 9.3.4.3.1.

If you select one of these functions, the select function is inserted at the present cursor position in the formula panel.

OK
Calculates the new curve and inserts it in the diagram.

Cancel
Cancels this dialog without creating a new curve.

Save as a template
Saves the script you have edited.

You can test your changes with <LMC> on ***Test new curve***.

The formula is now calculated.

After a few seconds, you will see a representation of the measured values according to your modified formula in the upper third of the graphic display.

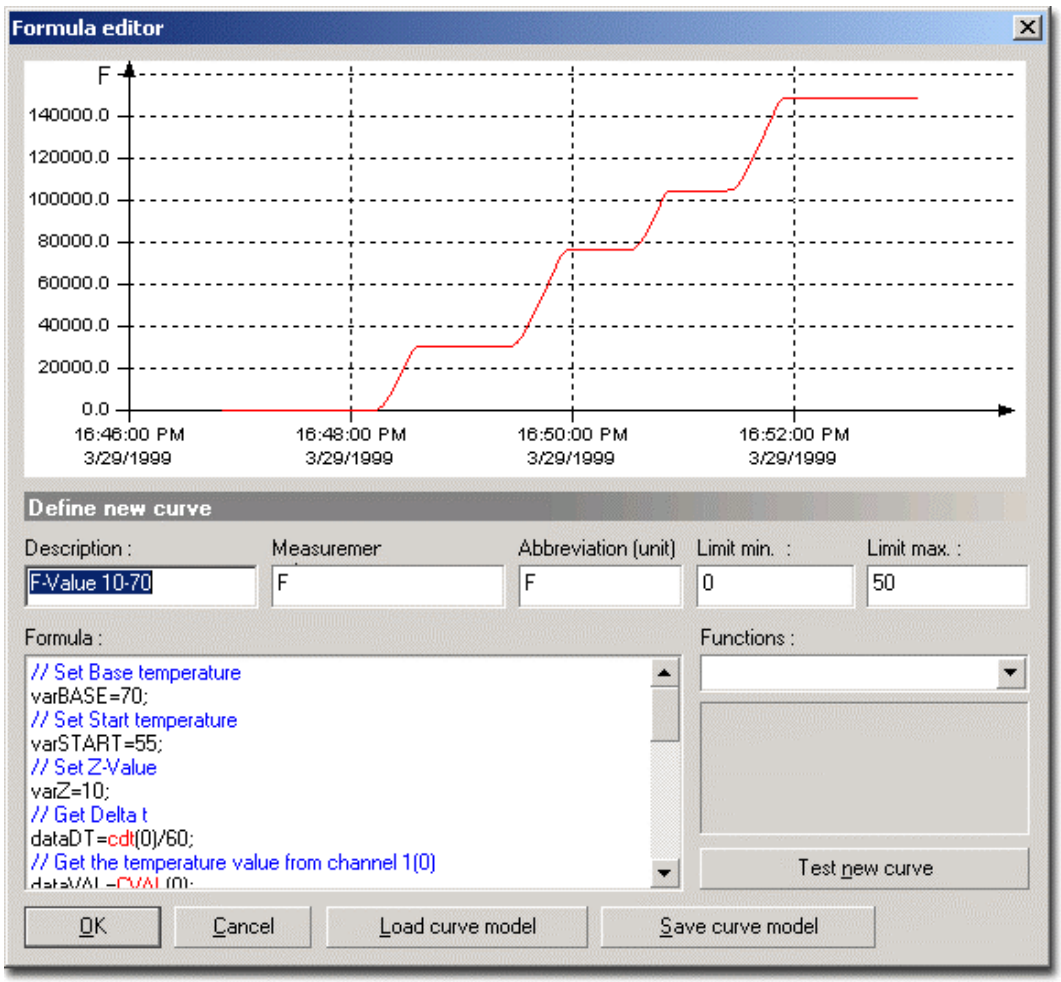


Fig.171 Formula editor: Filled-in dialog box

9.3.4.3 Formula editor: Editing formulas

9.3.4.3.1 General definition

The formulas, by means of which calculations can be carried out, are also referred to as templates or scripts.

For editing, *WINLOG 2000* includes a script language with which you can carry out your calculations.

Actually, this script language is nothing but a pocket calculator with a few additional functions. These give you the possibility to define variables.

Control commands such as "if .. else" or the like are not available.

Example-script for calculating the arithmetic average value via 4 channels of a 4-channel logger.

```
ValueChannel_1=CVAL(0);

ValueChannel_2=CVAL(1);

ValueChannel_3=CVAL(2);

ValueChannel_4=CVAL(3);

MittelValue=(ValueChannel_1 + ValueChannel_2 + ValueChannel_3 + ValueChannel_4) / 4;
```

Fig.172 Formula editor: Example-script

The result of this example-script would be a new curve, which represents the average value of all 4 channels of a 4-channel logger.

Formulas have a special importance in *WINLOG 2000*. On the one hand, formulas must be used, if you want to define new units (e.g. relative pressure in psi). On the other hand, formulas are needed, if you want to carry out your own evaluations of your measured values.

Using the formulas, you can also carry out very complex calculations, as you can see from the formulas (templates) for the calculation of the F-value or CO_2 value.

9.3.4.3.2 Limitations to editing formulas

When editing new formulas, some important points must be considered.

1. Numerical values must not be greater than 10^7 (10,000,000).

   Greater values cannot be correctly represented in the diagram and are therefore not permitted.

   WINLOG 2000 then sets such values to zero and marks them with a #INF in the table of measured values.

2. When editing the formula, take care that no undefined results can occur.

   So CVAL(0)/CMIN(0), for example, would create an undefined result for a minimum of 0, since a division by zero cannot deliver any result.

   If such an error should still appear, *WINLOG 2000* will signal it and suppress the display of the diagram.

3. Typing errors or syntactic errors when editing formulas are not signaled as errors. Instead, the result of the formula is set to zero.

   Example:
   "10*(CVAL(0)-CMAX(0)" would deliver zero as a result, since the right closing bracket is missing.

4. The longer and the more complex the formula is, the more time *WINLOG 2000* needs for calculating this formula.

9.3.4.3.3 Script language for editing formulas

Functions only for the evaluation of curves

The following functions can only be used for the evaluation of curves.

They must not be used for the definition of one's own units.

Function	Parameter	Description	Example
CVAL(n)	n - channel of the document, where: n=0 (channel1), n=1 (channel2), etc.	Determines a measured value of the indicated channel.	*CVAL(0)*2 : Determines the actual measured values of channel 1 and multiplies this value by 2.*
CDT(n)	n - channel of the document, where: n=0 (channel1), n=1 (channel2), etc.	Determines the interval in seconds, with which the data have been recorded.	*CDT(1) : Determines the interval of channel 2.*
CMAX(n)	n - channel of the document, where: n=0 (channel1), n=1 (channel2), etc.	Determines the maximum of the indicated channel. If you enter n = -1, the maximum of the channel calculated at present is determined.	*CMAX(2) : Determines the maximum measured value of channel 3*

CMIN(n)	n - channel of the document, where: n=0 (channel1), n=1 (channel2), etc.	Determines the minimum of the indicated channel. If you enter n = -1, the minimum of the channel calculated at present is determined.	*CMIN(2) : Determines the minimum measured value of channel 3*
CMID(n)	n - channel of the document, where: n=0 (channel1), n=1 (channel2), etc.	Determines the average value of the indicated channel. If you enter n = -1, the average value of the channel calculated at present is determined.	*CMID(2) : Determines the average value of channel 3*
CSTD(n)	n - channel of the document, where: n=0 (channel1), n=1 (channel2), etc.	Determines the standard deviation of the indicated channel. If you enter n = -1, the standard deviation of the channel calculated at present is determined.	*CSTD(2) : Determines the standard deviation of channel 3*
CVAR(n)	n - channel of the document, where: n=0 (channel1), n=1 (channel2), etc.	Determines the variance of the indicated channel. If you enter n = -1, the variance of the channel calculated at present is determined.	*CVAR(2) : Determines the variance of channel 3*

Functions for evaluating and editing units

These functions can be used both for the evaluation of curves and for editing one's own units.

Function	Parameter	Description	Example
TRSH(V,T,R)	V - value, T - comparison value, R – Return value	If V is greater than or equal to T, the function returns the value in R, otherwise 0.	*TRSH(50,30,50) : Equals 50, since 50 >= 30* *TRSH(50,60,50) : Equals 0, since 50 < 60*
SIN(X)	X	Delivers the sine of X	*SIN(CVAL(0)) : Delivers the sine of the measured value of channel 1*
COS(X)	X	Delivers the cosine of X	*COS(CVAL(0)) : Delivers the cosine of the measured value of channel 1*
TAN(X)	X	Delivers the tangent of X	*TAN(CVAL(0)) : Delivers the tangent of the measured value of channel 1*
ASIN(X)	X	Delivers the arc sine of X	*ASIN(CVAL(0)) : Delivers the arc sine of the measured value of channel 1*

ACOS(X)	X	Delivers the arc cosine of X	*ACOS(CVAL(0)) : Delivers the arc cosine of the measured value of channel 1*
ATAN(X)	X	Delivers the arc tangent of X	*ATAN(CVAL(0)) : Delivers the arc tangent of the measured value of channel 1*
RAD	None	Switches over to radian measure. Only affects trigonometric functions (Sin, Cos, ...)	-
DEG	None	Switches over to centesimal measure. Only affects trigonometric functions (Sin, Cos, ...)	-
GON	None	Switches over to degrees. Only affects trigonometric functions (Sin, Cos, ...)	-
POW(X,Y)	X - Base, Y – Power	Determines the power Y for the base X.	*POW(2,2) = 4*

SQR(X)	X - Value	Determines the square of X	*SQR(2) = 4*
SQRT(X)	X - Value	Determines the square root of X	*SQRT(4) = 2*
EXP(X)	X - Value	Determines the exponential of X	*EXP(2.302585093) = 10*
LOG(X)	X - Value	Determines the natural loga-rithm of X	*LOG(9000)=9.104980*
LOG10(X)	X - Value	Determines the logarithm of X to the base of 10	*LOG10(9000)=3.954243*
CUBE(X)	X - Value	Determines the third power of X	*CUBE(2)=8*
ABS(X)	X - Value	Determines the absolute value of X	*ABS(-5)=5*
INT(X)	X - Value	Determines the integral part of X	*INT(4.5)=4*
FRACT(X)	X - Value	Determines the part of X after the point	*FRACT(4.5)=0.5*
FAK(X)	X - Value	Determines the factorial of X	*FAK(5)=120*

9.3.5 Archiving measured data

As already mentioned earlier, saved measured-value files can be as large as 1 MByte. If you have saved many files, the professional version of *WINLOG 2000* offers you the possibility to compress these files and to shift them into a directory, which must be defined before.

Thereby, the files are compressed to approximately one tenth of their original size, and they are deleted from the WINLOG folder **Archived documents**.

9.3.5.1 Compressing and archiving EBI files

For compressing and simultaneously archiving files, proceed as follows:

In the left directory tree, open the directory in which the files to be compressed are saved.

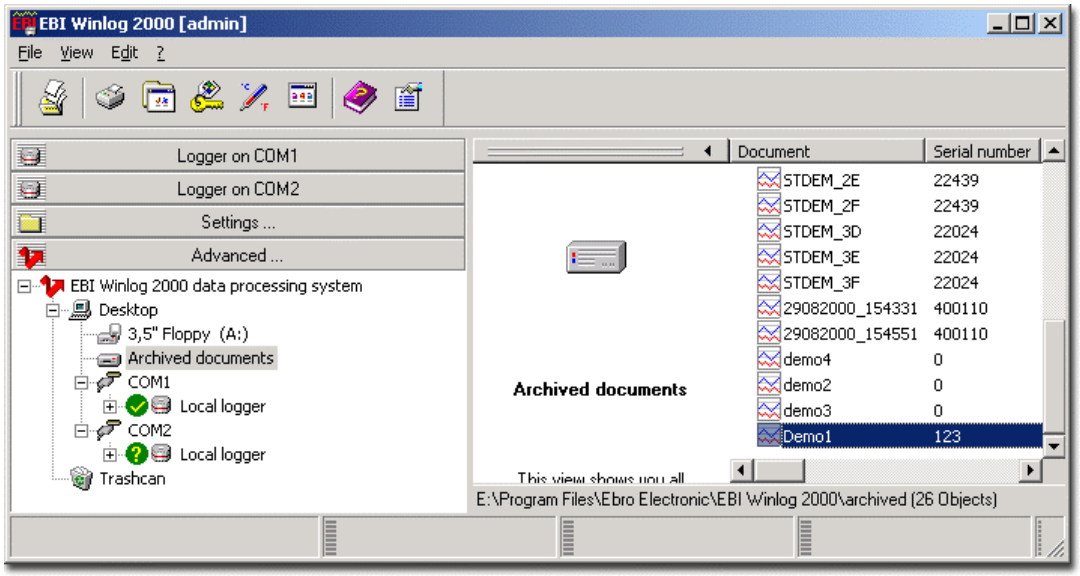


Fig.173 Data archiving: Path

9.3.5.1.1 Compressing and archiving several files

Mark the files to be compressed in the right panel:

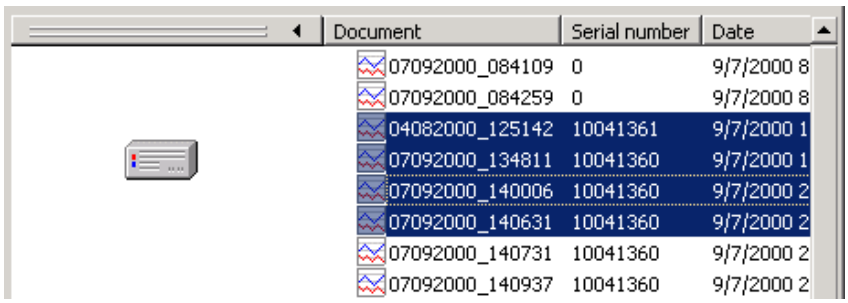


Fig.174 Data archiving: File list

With <RMC> on the mark, you receive the following dialog:

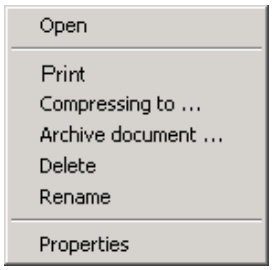


Fig.175 Data archiving: Marking files

After a <LMC> on ***Compressing to...***, you are asked for the target directory. You select this one "*Fig.176 Data archiving: Directory tree*" and confirm with ***OK***.

In this menu, you can also

- Open the file (represent in a graphic display),
- Delete or Archive the file. The latter is described in chapter 9.3.5.1.3.

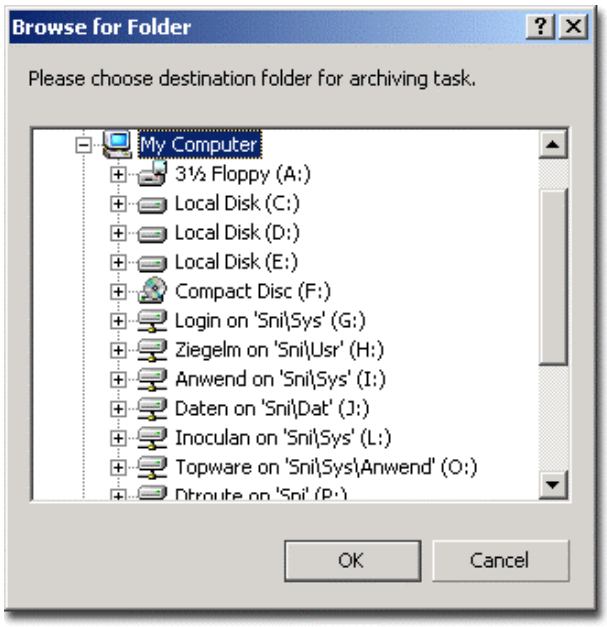


Fig.176 Data archiving: Directory tree

After confirming, you see a progress bar:

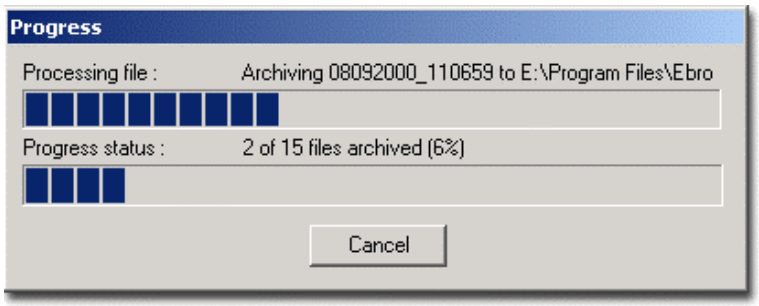


Fig.177 Data archiving: Progress bar

The compressed files are then deleted from the **Archived documents** folder.

9.3.5.1.2 Compressing and archiving single files

If you want to compress and simultaneously archive only one file, you must mark it. If you now make a right mouse-click on the marked file, you receive this dialog:

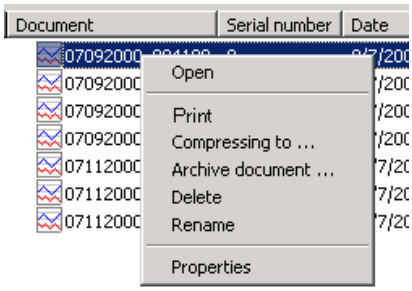


Fig.178 Data archiving: Context menu

It differs from the dialog when compressing several files, in the additional possibility of renaming the file and displaying the properties of the file.

The properties of the file are displayed as follows:

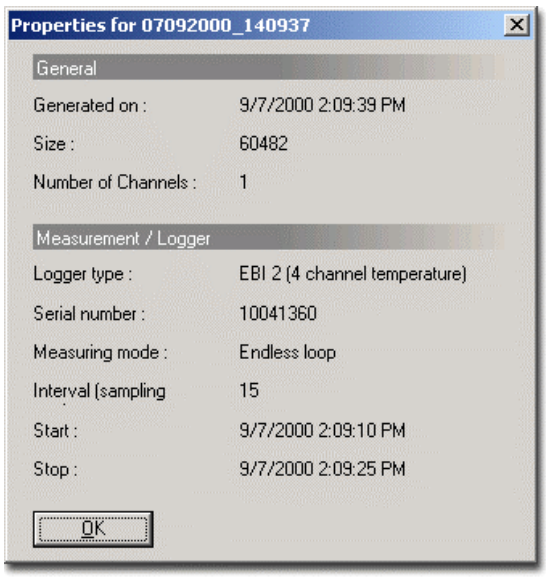


Fig.179 Data archiving: File properties

9.3.5.1.3 Archiving EBI files

If you only want to archive measured value files, you have the possibility to copy the marked file or files to the main folder **Archived documents** "*Fig.173 Data archiving: Path*".

This means that the files are not compressed and that they remain in the master folder.

Should the desired file be already archived, you receive, of course, a warning message:

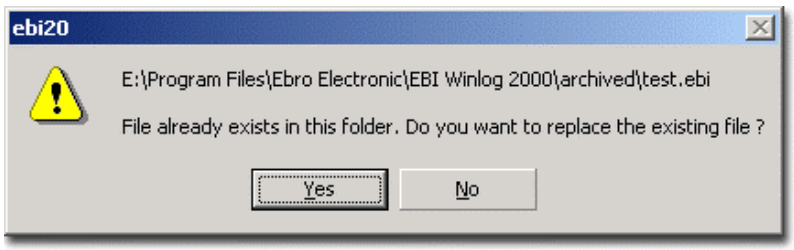

ebi20
E:\Program Files\Ebro Electronic\EBI Winlog 2000\archived\test.ebi
File already exists in this folder. Do you want to replace the existing file ?
Yes
No

Fig.180 Data archiving: Safety interrogation

9.3.5.2 Import of compressed files

In the professional version of *WINLOG 2000*, you have the possibility to re-import compressed files and to represent them as a graphic display.

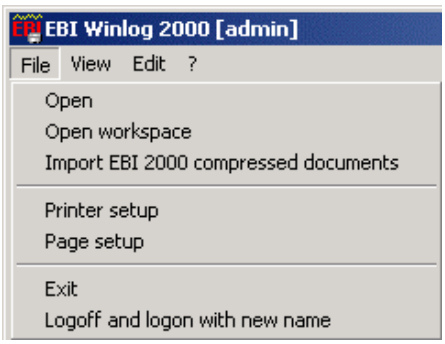


Fig.181 Data archiving: Menu for file

For this purpose, click on **File - Import EBI 2000 compressed documents** in the main menu.

This opens a file selection dialog.

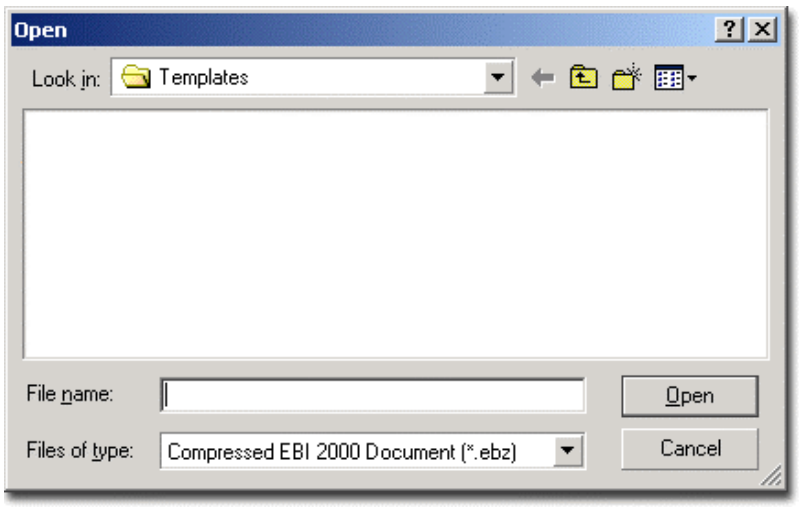


Fig.182 Data archiving: Directory

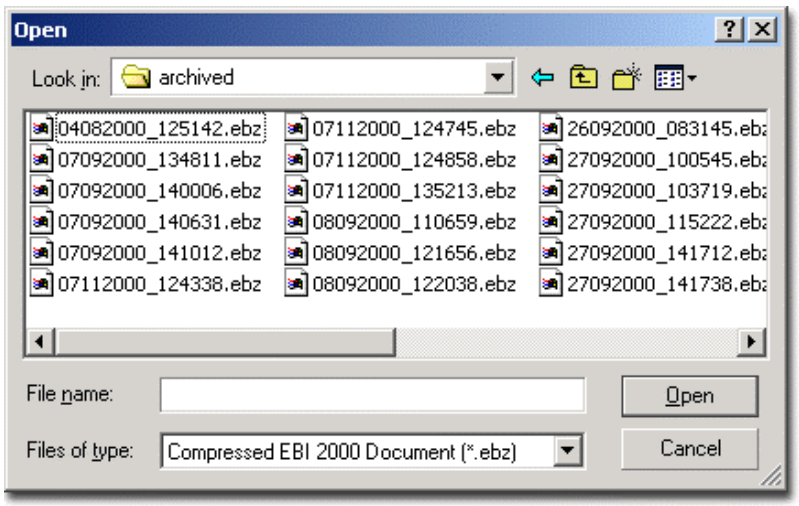


Fig.183 Data archiving: File selection

Select one or more compressed *WINLOG 2000* files (*.ebz) to import.

You can import up to 1024 files.

Imported files appear in the Explorer view in the branch "Archived documents" in “*Fig.173 Data archiving: Path*“.

Here the files, which now have the **ebi** suffix, can be opened and displayed as usually.

9.3.6 Measurement units administration

WINLOG 2000 offers you the possibility to use any imaginable unit for the representation of measured values.

As a standard, *WINLOG 2000* is delivered with the most usual units for pressure, temperature, humidity etc.. However, you also have the possibility to edit your own units or to change existing units.

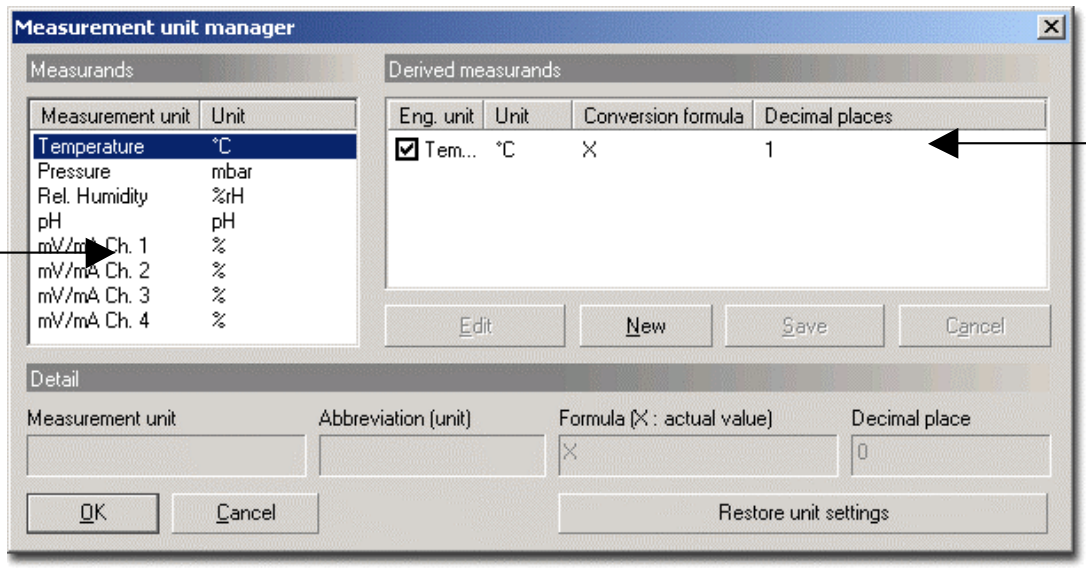


Fig.184 Administration of measured variables:

This dialog field is divided into 3 ranges:

In the upper left range, all existing "basic units" are listed. These are fixed and cannot be changed. Basic units are those units, with which the EBI loggers work internally. So an EBI 85 A logger, by principle, measures the temperature in degrees Celsius. When a logger is read-out, then it delivers its data in this "basic unit", which is then converted into the momentarily active, derived unit by *WINLOG 2000*.

In the upper right range, all derived units available are listed. These are the units which are used for displaying data in *WINLOG 2000*.

Example:

You read-out an EBI 85 A logger, which delivers its data in the basic unit of degrees Celsius (°C).

As an active derived unit, you have selected degrees Kelvin (°K).

WINLOG 2000 now converts all measured values into degrees Kelvin and uses this unit for every representation of temperature data.

For changing the active derived unit, you only need to click in the box next to the corresponding unit, with the mouse. The respective active unit is marked with a hook.

In the lower range, you can enter new units or change existing units.

For creating a new derived unit, click on the ***New*** button.

Then you have the possibility to enter a new derived unit into the lower range

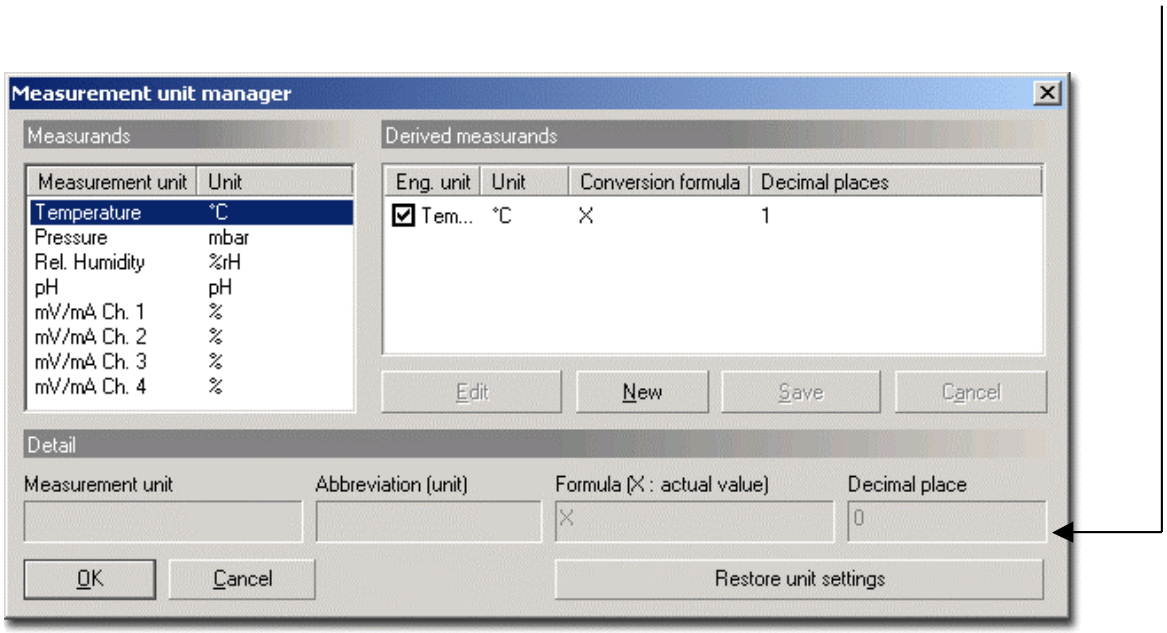


Fig.185 Administration of measured variables: Example

A unit consists of the following indications:

Measurement unit
The description of the unit.

Abbreviation
The symbol of the unit, for instance °C for degree Celsius.

Formula
The formula required for converting the basic unit into the derived unit. Thereby, the "X" always stands for the value in the basic unit and must always be available.

Decimal place (Digits after the point)
Number of digits after the point, which are used for displaying values in this derived unit.

For example we will demonstrate the procedure with building °F.

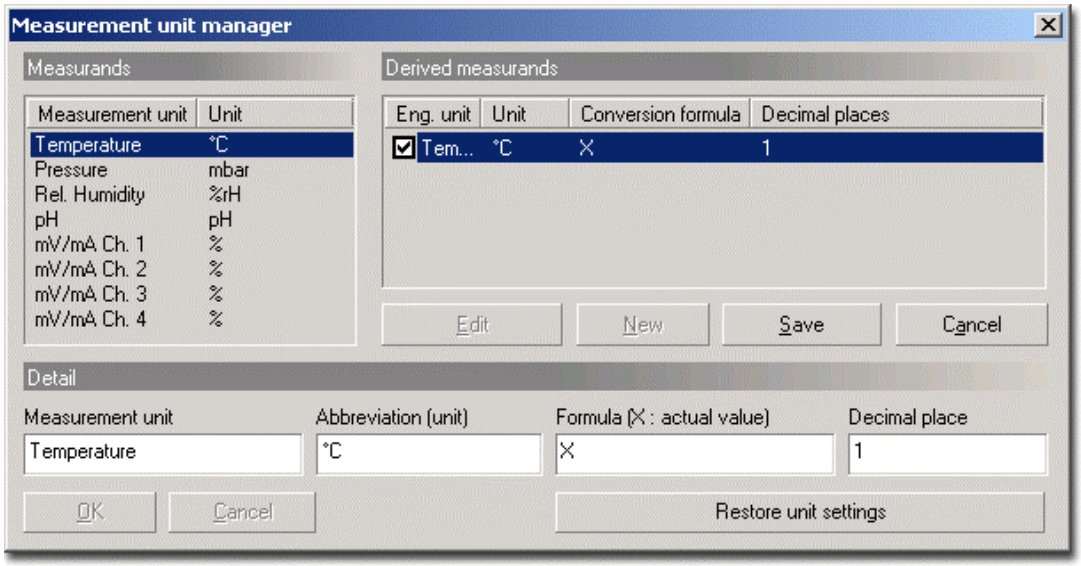


Fig. 186 Administration of measured variables: Example °F

Fill the high lighted fields as shown in the above figure.

In order to finish the manipulation of a unit, you must click on ***Save***.

After saving you get the following mask. If you want to indicate your temperatures hook the unit °F.

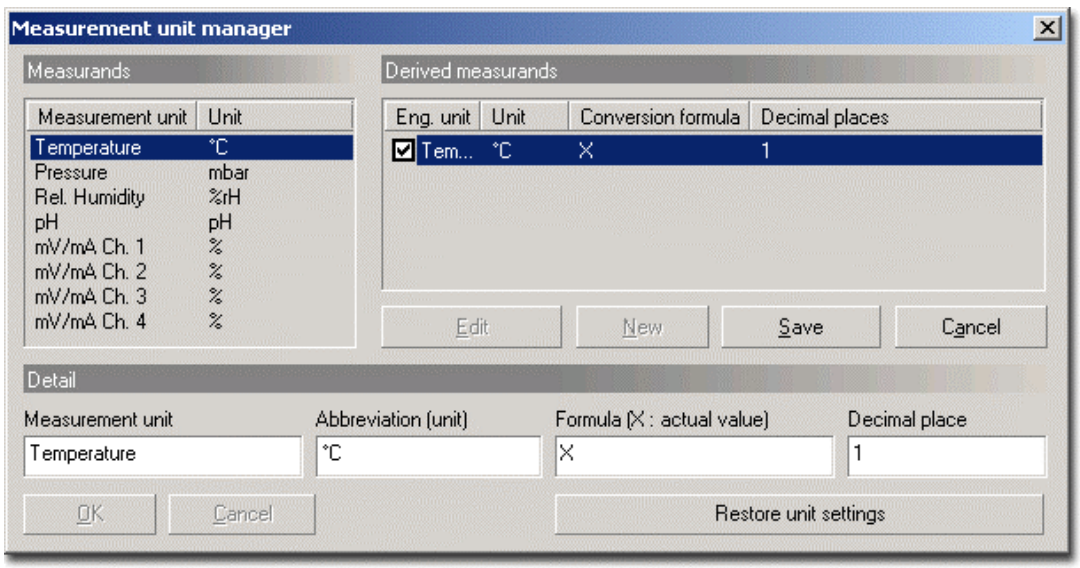


Fig. 187 Administration of measured variables: Select unit °C or °F

9.3.7 Real-time monitoring

The "Real-time monitoring" is a special feature, which you can use for monitoring the momentarily measured values of a logger in "real-time" (in this case, real-time means: every 1 second).

Moreover, the main statistical information is represented in a table.

Click on the ***Start***... button: the recording starts.

The data displayed here cannot be manipulated, saved or printed out. They only serve for the visual monitoring.

If you want to finish the monitoring, click on "***OK***".

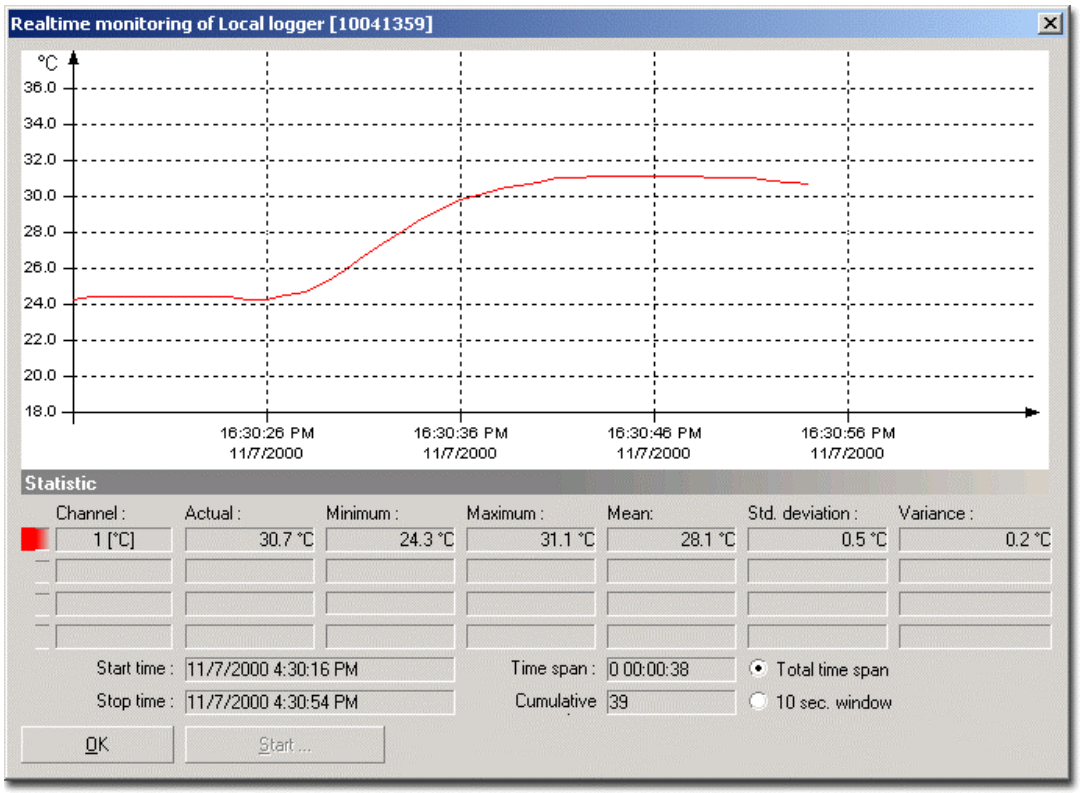


Fig.188 Real-time monitoring

The meaning of the fields in the mask:

Channel
Here, the measuring-channel number and the measuring unit (°C, °F, mbar, ...) of the respective channel are displayed.

Momentary
The momentarily recorded measured value.

Minimum
The smallest measured value recorded during the real-time monitoring.

Maximum
The greatest measured value recorded during the real-time monitoring.

Average value
Arithmetic average value. It is calculated from all measured values recorded during the real-time monitoring.

Standard deviation
Standard deviation. It is calculated from all measured values recorded during the real-time monitoring.

Variance
Calculated from all measured values recorded during real-time monitoring.

Measurement start
Moment when the monitoring starts.

Measurement end
Actual time.

Period
Total monitoring period, displayed as *Days:Hours:Minutes:Seconds*.

Measuring points
Number of measured values recorded during the monitoring.

Total period
Activate this option, if you desire a graphic representation of all measured values recorded during the monitoring.

10-second panel
Activate this option, if you desire a graphic representation of the measured values recorded during the last 10 seconds.

10 Working with WINLOG 2000 – B (BUS)

Of course, this version comprises all functions of the Standard version and of the professional version of *WINLOG 2000*.

In order to be able to work properly with the *WINLOG 2000 - B* version, it is indispensable that you have already made experiences with the professional version.

Work through the chapters 5 to 10 most attentively! You thus save yourself many questions.

Purchase and installation of the *WINLOG 2000 - B* software

This software version can be purchased or installed in two different ways.

10.1 Purchase of the *WINLOG 2000 - B* version

You have decided to buy the *WINLOG 2000 - B* version from the start.

In this case, install the software as described in chapter 4.

After the installation, *WINLOG 2000 - B* is available on your computer. You can now use all the additional functions described in this chapter.

Of course, you can also dispose of all functions of the Standard (-S) and of the Professional (- P) software.

10.2 Purchase and installation of the BUS program module

You already work with the Standard or Professional version of *WINLOG 2000* and would like to change to *WINLOG 2000 - B* .

Buy the releasing code for the installation of the BUS-version program module from ***ebro*** or your retailer.

Since you have already installed a version of *WINLOG 2000*, you can register the program module very easily. The procedure is very precisely described in chapter “5.4.1.2 Adding program modules“.

10.3 Installation of the hardware

10.3.1 EBI-AE-BUS Connecting device for up to 30 data loggers (Gray desktop case with external power supply EBI-PS 40)

Fig. 189 Interface EBI-AE-BUS-30

Make sure that your mains voltage corresponds to the inscription on the type plate of the power supply (e.g. 230 V). Now plug the mains cable of the power supply into a grounded 230 V socket.

Connect this type **EBI-AE-BUS** interface using the delivered cable EBI-Int-K9 for the 9-pole interface of your computer) or EBI-Int-K25 (for the 25-pole interface of your computer) with a free serial interface (COM1, COM2, COM3 or COM4) of the computer.

Screw the cable with the two screws located on the connector to the interface socket by means of a small screw-driver, in order to prevent an unintended loosening of the cable.

The 9-pole socket of the data cable must always be plugged into the interface.

In order to prevent that the cable is inadvertently pulled out, please also tighten the two screws of the 9-pole socket of the data cable with a screw driver.

Please connect the EBI-PS 40 table power-supply, included in the delivery of the evaluation system, with the interface using the adaptor cable (power supply) as described:

Carefully insert the connector of this cable into the corresponding socket of the interface and lock it by fastening the coupling ring of this connector.

You thus prevent an undesired loosening of this connection.

10.3.2 EBI-AE-BUS-63 Connecting device for up to 63 data loggers (Black wall-mount case with external power supply)

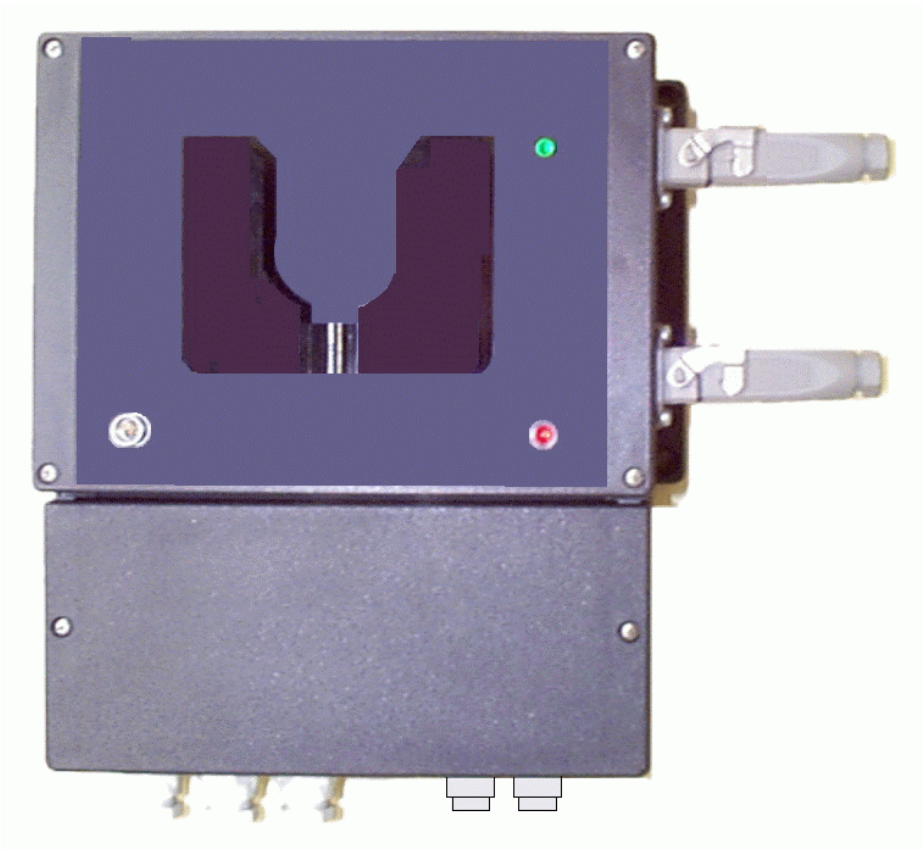


Fig. 190 Interface EBI-AE-BUS-63

Connect this type **EBI-AE-BUS-63** interface using the delivered cables EBI-Int-K9 (for the 9-pole interface of your computer) or EBI-Int-K25 (for the 25-pole interface of your computer) with a free serial interface (COM1, COM2, COM3 or COM4) of the computer.

Screw the cable with the two screws located on the connector to the interface socket by means of a small screw-driver, in order to prevent an unintended loosening of the cable.

The 9-pole socket of the data cable must always be plugged into the interface.

In order to prevent that the cable is inadvertently pulled out, please also tighten the two screws of the 9-pole socket of the data cable with a screw driver.

The wall-mounted power supply contained in the delivery of the evaluation system is already connected to the interface via the adaptor cable.

Make sure that your mains voltage corresponds to the inscription on the type plate of the power supply (e.g. 230 V).
Now plug the mains cable of the power supply into a grounded 230 V socket.

Switch-on the power supply.

10.3.3 Logger types

The following loggers are suited for use in BUS systems:

Wet-room loggers of series EBI-2T-7xx

Dry-room loggers of series EBI-2T-7xx

Pictures of these loggers you can see in "*Fig. 2 BUS logger for wetroom"* and *"Fig. 3 BUS logger* for dryroom*".*

10.3.4 BUS installation

For the first set-up or extension of a BUS system, you should contact the service department of ***ebro***.

The proper function of a system greatly depends on the BUS wiring. The cable used and the way it has been laid are very important.

In any case, you should consider the installation instructions for the BUS system available at ***ebro***.

10.3.5 Printer

For this purpose, consider the chapters 3.3 and 5.3.1.

There, the connection or the installation of the printer is described.

10.4 Additional functions compared to the Standard version

Start the *WINLOG 2000* program as described in chapter 5.1..

You will see the input screen after

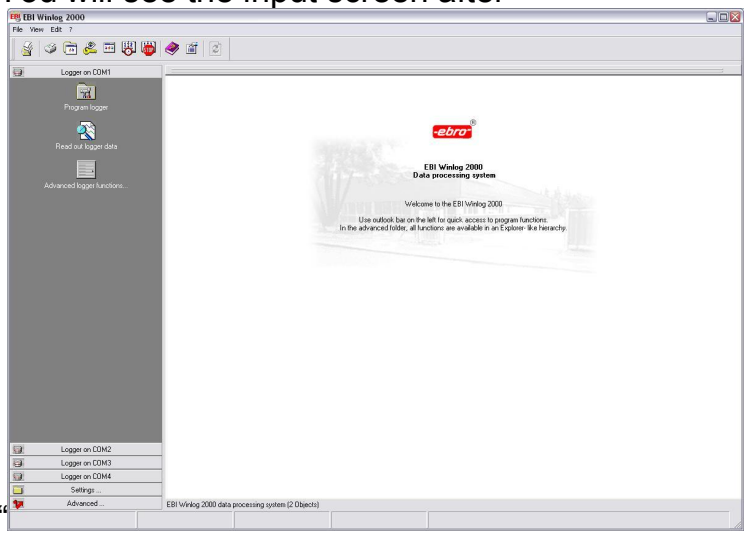

EBI Winlog 2000
File View Edit ?
Logger on COM1
Program logger
Read out logger data
Advanced logger functions...
Logger on COM2
Logger on COM3
Logger on COM4
Settings...
Advanced...
EBI Winlog 2000
Data processing system
Welcome to the EBI Winlog 2000
Use outlook bar on the left for quick access to program functions.
In the advanced folder, all functions are available in an Explorer-like hierarchy.
EBI Winlog 2000 data processing system (2 Objects)

Fig. 40 Standard version: Main panel".

10.4.1 Password request

In the BUS version, the access to the software is protected with a password.
You obtain this request dialog-box:

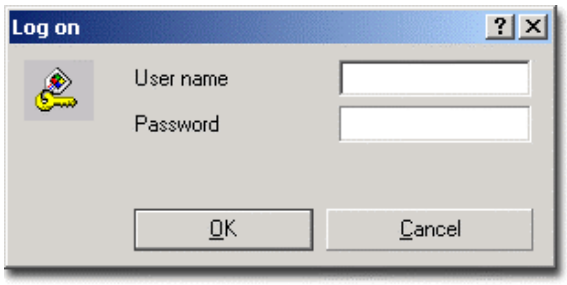


Fig.191 Password request

Enter "**admin**" for *User name* and for *Password* as well, both times without the quotation marks and in small letters.

By confirming with <LMC> on ***OK***, you get access to the program. The program is opened.

Cancel ends the program.

As described in chapter 9.3.2, the user can be attributed a new name and granted new rights.

10.4.2 Input screen

Compared to the other versions *WINLOG 2000 - B* includes an additional icon in the input screen, the Scheduler icon.

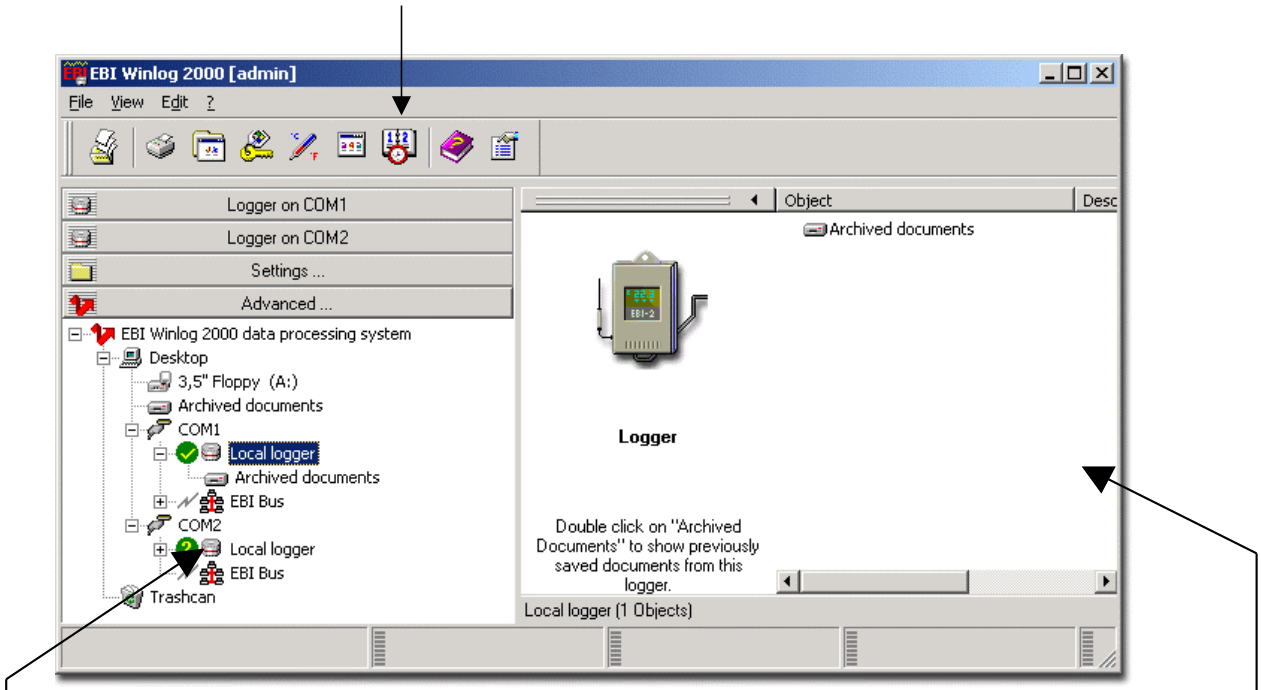


Fig.192 Professional version: WINLOG 2000 *main panel*

Here also, the main panel of WINLOG 2000 is divided into two ranges.

In the left third, you can see the so-called Outlook-bar. (For more details, see chapter 9.3.2.1.

In the right half of the main panel, you see the Explorer-like tree representation.

You can find more details on Outlook-bar, EBI Explorer and User administration in chapter 9.3.

10.4.3 Scheduler

The *WINLOG 2000* Scheduler is a powerful tool for automating the work with the BUS system. You can use the Scheduler for having certain tasks carried out at certain times.

Further details are explained in chapter 10.7.

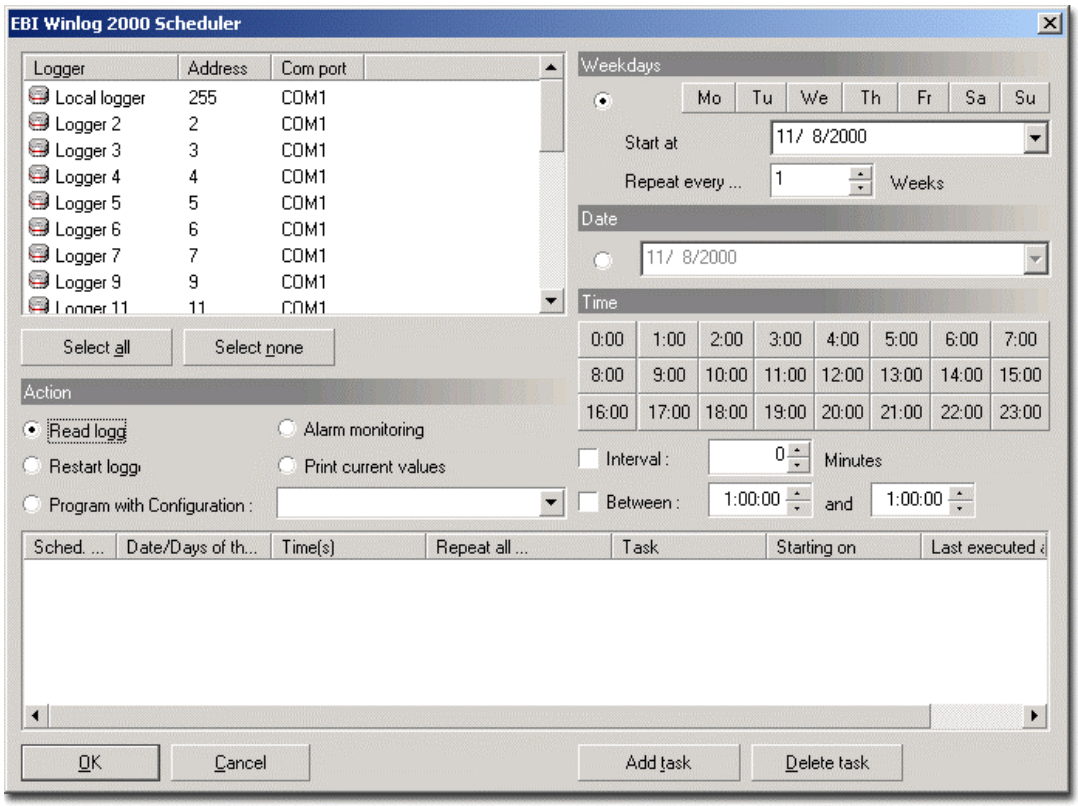


Fig.193 Scheduler - Dialog box

10.4.4 Settings

In chapter 5.4.1 it has been explained, which settings can be taken over or changed by the user.

In the professional and in the BUS version of *WINLOG 2000*, there is also the possibility to define a directory or a path for filing the files.

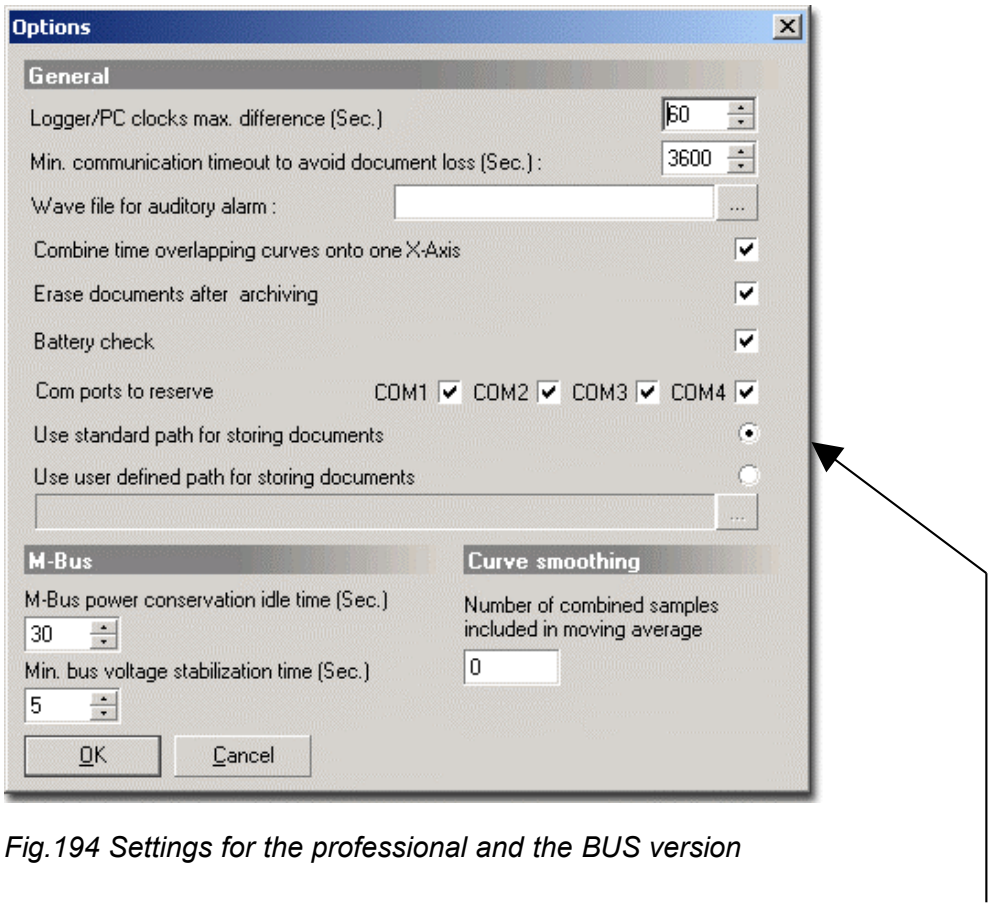


Fig.194 Settings for the professional and the BUS version

If the circle next to ***Standard path for storing documents*** has been clicked upon, i.e. it has a black point in the middle, this is used for filing the files.

It is the ***Archived documents***. directory which belongs to the logger.

However, you can also create a directory defined by yourself, by making a <LMC> on the circle next to ***User-defined path for storing documents***.

Now enter your desired directory into the empty text line.

Fig.195 Example for a path indication

10.5 Setting up a BUS system

10.5.1 General

The BUS system consists of a two-wire line, to which the BUS loggers are connected, of an interface and a PC with the *WINLOG 2000 BUS*.

In order to be able to administrate these loggers, the system must know which loggers are networked with it.

That's why you must give each logger a so-called account address, which must exist only once in the system.

After all loggers have received a node number, the BUS system is determined via the configuration (see chapter 10.6.1).

The next step is to organize the work on the BUS system using the Scheduler. It includes:

- Monitoring of the limit values
- Starting of loggers
- Readout of loggers
- Display of measured values

10.5.2 Assigning a node address to a logger

As mentioned in the previous chapter, each logger must first receive a node address in the Bus system.

This node address is programmed into the logger.

The prerequisite for this is that the logger to be programmed is placed in the local station of the interface.

Open the ***Advanced...*** folder in the input screen of *WINLOG 2000.*
The following figure appears:

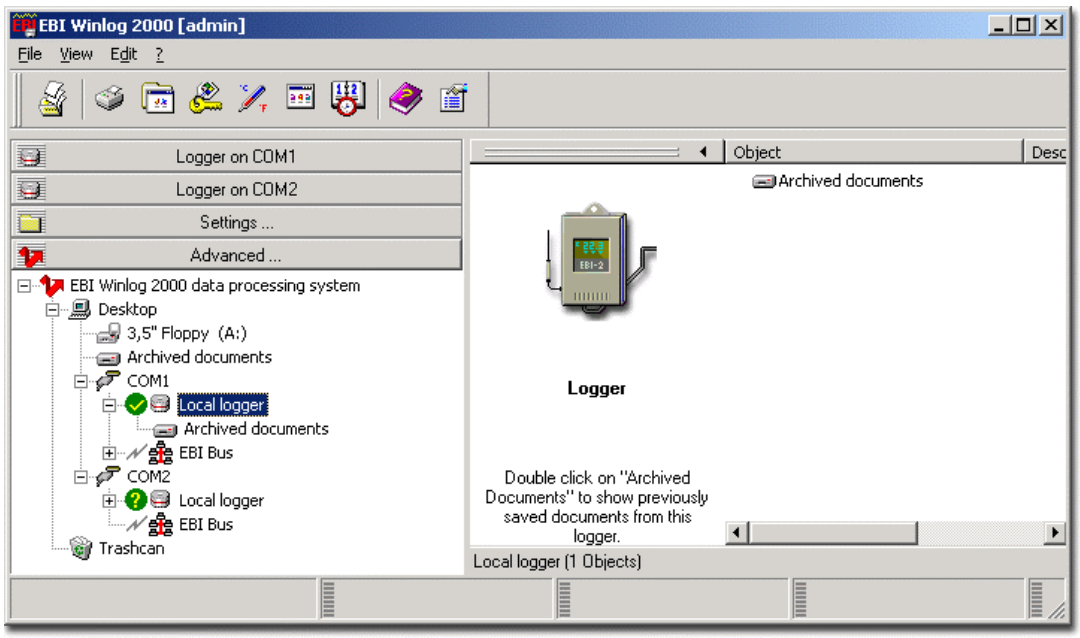


Fig.196 Selection of the BUS

You see that, under COM1, the icon for the BUS also appears.

Since the logger to be programmed with the node address is located at COM1, you must make a right mouse-click on COM1.

The following menu is opened:

Fig.197 Assigning a node address

Make a <LMC> on ***Program logger addresses***.

This dialog box opens:

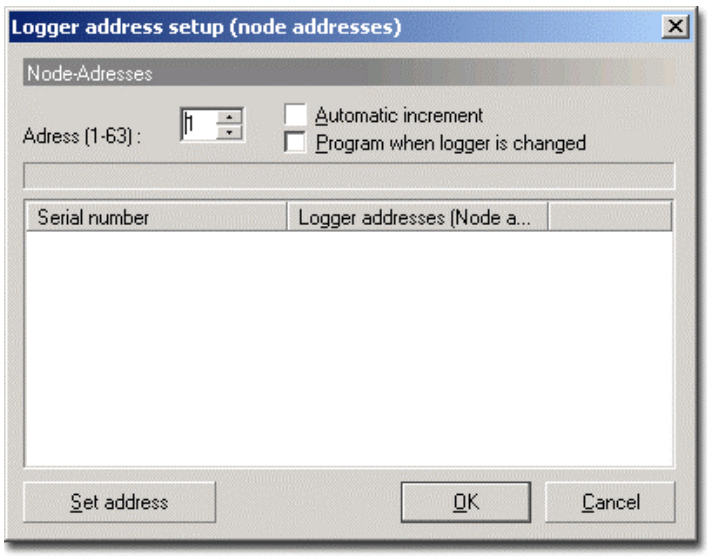


Fig.198 Assigning a node address: Dialog box

Enter the desired number into the address field, in our case it's number 1. This means that you simply take over the given cipher:

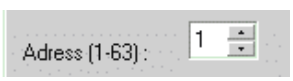


Fig.199 Giving a node address: Selection of the number

Make a <LMC> on ***Set address***.

You are asked to place a logger in the interface.

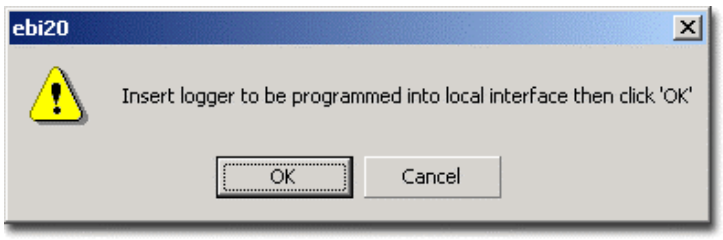


Fig.200 Assigning a node address: Confirmation

Follow the instruction and confirm ***OK***.

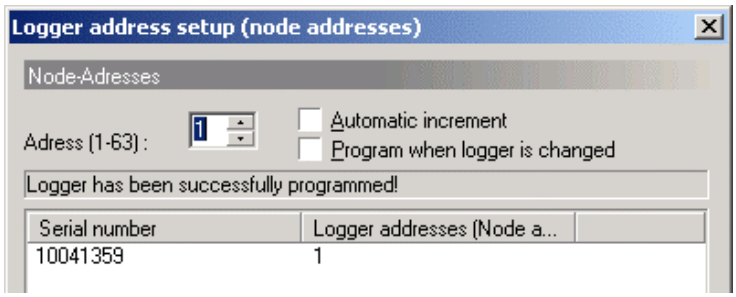


Fig.201 Assigning a node address: View of the entry

This message tells you that the logger has been successfully programmed with the node number .

With ***OK*** you are leaving the dialog box, ***Cancel*** prevents programming.

If you place a hook next to ***Automatic increment***, the last node number for the next logger to be programmed is increased by 1.

After finishing the programming, *Fig.200 Assigning a node address: Confirmation* immediately appears again, asking you to insert the next logger.

This logger is then programmed with the next higher number. This is repeated until you cancel.

If you select ***Program when logger is changed***, an automatic programming is activated, as shown in the following message.

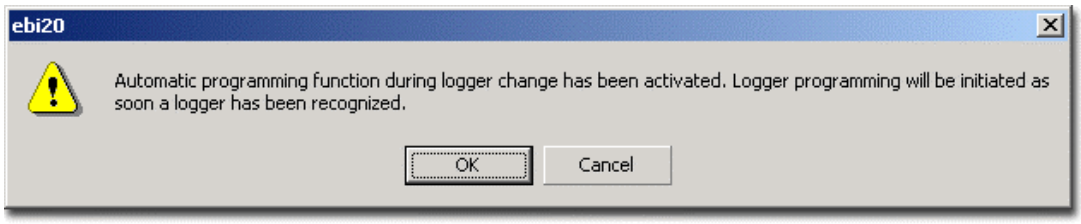

ebi20
Automatic programming function during logger change has been activated. Logger programming will be initiated as soon a logger has been recognized.
OK
Cancel

Fig.202 Assigning a node address: Automatic attribution

10.5.3 Inserting a new logger

If you want to extend your BUS by one logger, then you can do this even without having to determine the BUS scheme anew.

The logger must already have been programmed with a node address that has not been attributed yet.

Make a <LMC> on ***EBI Bus*** in the Outlook-bar. Then, you obtain the following menu:

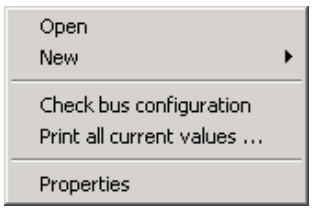


Fig.203 BUS scheme: Inserting a new logger

Make a <LMC> on ***New >***.

Select ***Logger***. You obtain the following dialog box:

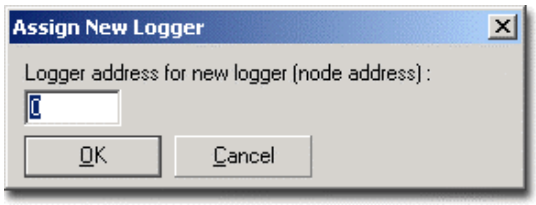


Fig.204 BUS scheme: Node address of the new logger

For this purpose, simply enter the node address of the logger which is to be inserted.

Make sure that this logger is properly connected to the Bus.

Then, click on ***OK***, in order to insert the logger.

If the insertion of the new logger has been successful, you must restart the application to make the changes become effective.

10.6 Working in a BUS system

10.6.1 Determining the BUS configuration

After having given your BUS loggers a node address and inserted it in the BUS system, you can now determine the BUS scheme.

For this purpose, make a right mouse-click on ***EBI BUS*** in the Explorer. You obtain the following menu:

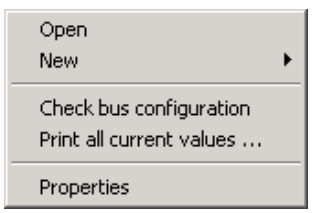


Fig.205 BUS configuration: Menu

Select ***Check Bus configuration*** with a <LMC>.

Before this happens, you first receive a warning message.

It points out that the BUS configuration is determined anew and that, therewith, the hitherto existing tasks of the Scheduler are deleted.

Answer ***Yes***.

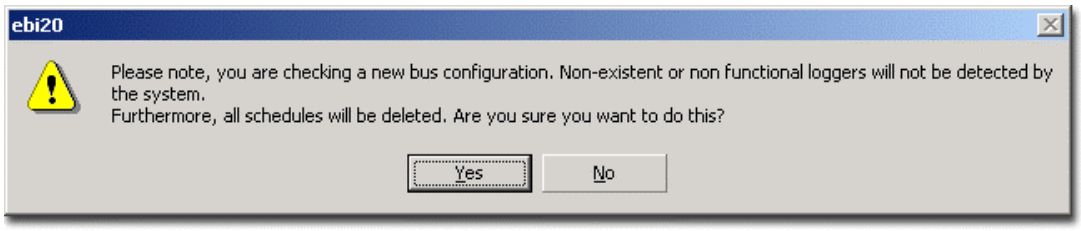

ebi20
Please note, you are checking a new bus configuration. Non-existent or non functional loggers will not be detected by the system.
Furthermore, all schedules will be deleted. Are you sure you want to do this?
Yes
No

Fig.206 BUS configuration: Warning message

On the screen, you can now see a message, in which is overlaid which and how many loggers have already been recognized during the determination.

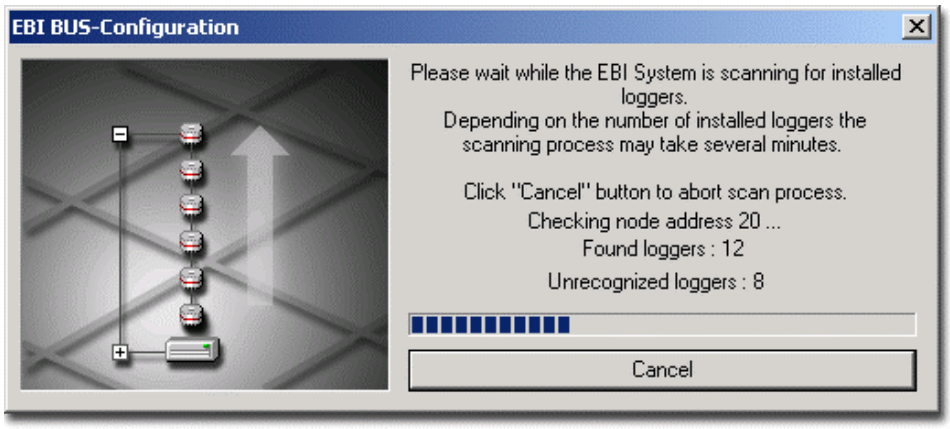

EBI BUS-Configuration
Please wait while the EBI System is scanning for installed loggers.
Depending on the number of installed loggers the scanning process may take several minutes.
Click "Cancel" button to abort scan process.
Checking node address 20 ...
Found loggers : 12
Unrecognized loggers : 8
Cancel

Fig.207 BUS configuration: Progressing of the determination

If you know that all your loggers have been recognized, you can end the determination with a <LMC> on ***Cancel***. Then, it is not necessary that the program interrogates all addresses as far as 63.

The cancelling will not happen immediately, it takes a few seconds until the momentary interrogation is finished.

If you had loggers with high addresses in a BUS system and you want to determine the scheme anew, you must take care that it is determined at least up to the old node numbers.

The program must now be ended and restarted to make the newly determined BUS scheme become effective.

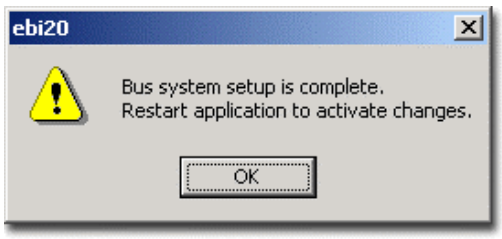


Fig.208 BUS configuration: Successful determination

10.6.2 Representing the BUS system on the screen

After you have restarted the program, open the ***Progressed...*** folder again.

Make a <LMC> on the plus sign next to ***EBI Bus***.

Under ***EBI Bus*** , you now see your configuration of the Bus.

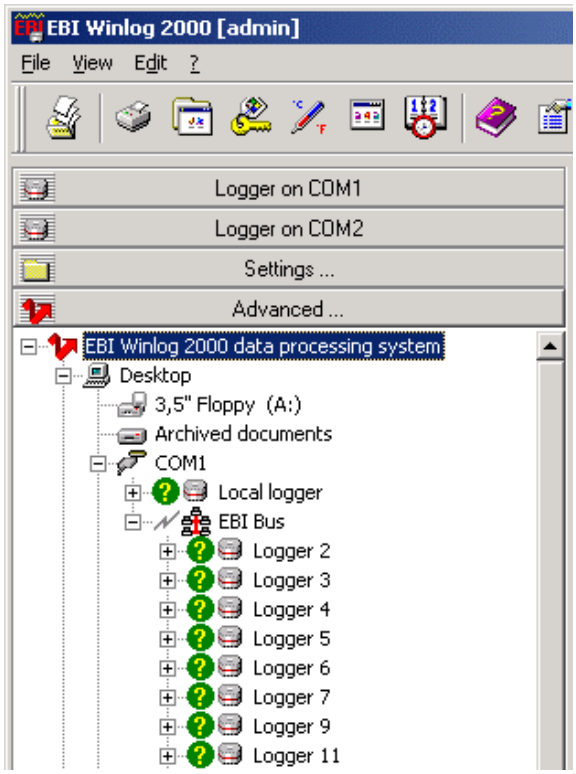


Fig.209 BUS configuration: Logger tree

Make a <LMC> on ***EBI Bus***.

Now, the right panel shows you the loggers contained in the BUS system.

In our example, these are the loggers with the node addresses 2 and 5.

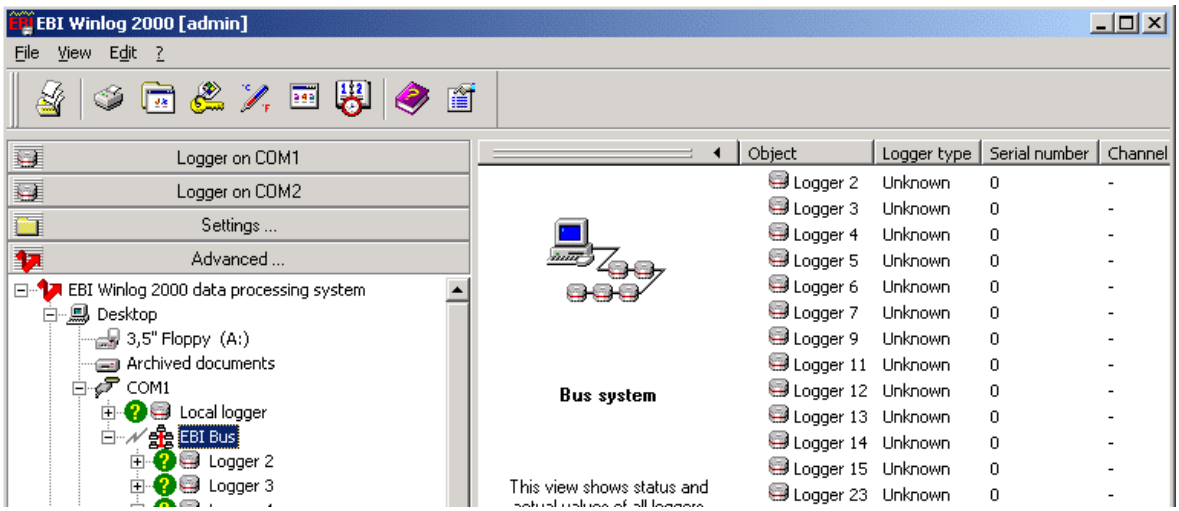


Fig.210 BUS configuration: Bus scheme for loggers

10.6.3 Logger detection

Now, all loggers must be read-out, in order to display the momentary values.

So, simply press the function key F5, whereby you must make sure that ***EBI Bus*** has been previously marked with a <LMC>.

At the left bottom, you can see the progress of the logger readout in the programming mask as a growing bar.

Fig.211 BUS interrogation: Determination of the logger status

When this has been carried out, you obtain the following figure with the momentary measured values:

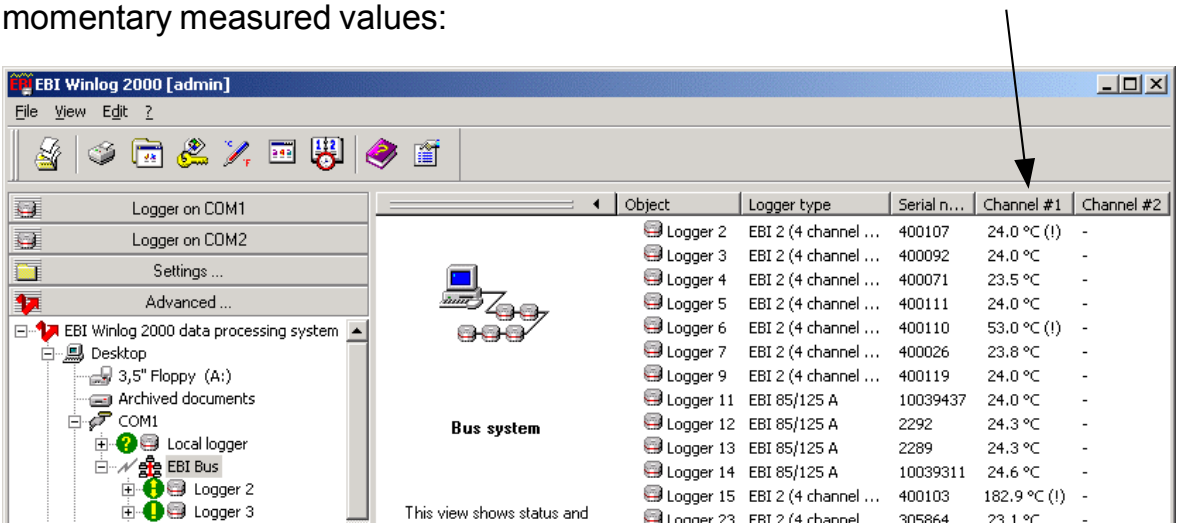

EBI Winlog 2000 [admin]
File View Edit ?
Logger on COM1
Logger on COM2
Settings ...
Advanced ...
EBI Winlog 2000 data processing system
Desktop
3,5" Floppy (A:)
Archived documents
COM1
Local logger
EBI Bus
Logger 2
Logger 3
Bus system
This view shows status and
Object
Logger type
Serial n...
Channel #1
Channel #2
Logger 2 EBI 2 (4 channel ... 400107 24.0 °C (!) -
Logger 3 EBI 2 (4 channel ... 400092 24.0 °C -
Logger 4 EBI 2 (4 channel ... 400071 23.5 °C -
Logger 5 EBI 2 (4 channel ... 400111 24.0 °C -
Logger 6 EBI 2 (4 channel ... 400110 53.0 °C (!) -
Logger 7 EBI 2 (4 channel ... 400026 23.8 °C -
Logger 9 EBI 2 (4 channel ... 400119 24.0 °C -
Logger 11 EBI 85/125 A 10039437 24.0 °C -
Logger 12 EBI 85/125 A 2292 24.3 °C -
Logger 13 EBI 85/125 A 2289 24.3 °C -
Logger 14 EBI 85/125 A 10039311 24.6 °C -
Logger 15 EBI 2 (4 channel ... 400103 182.9 °C (!) -

Fig.212 BUS interrogation: Result

10.6.4 Fetching actual measured data

If you don't want to monitor your BUS with the Scheduler, you can fetch, on your screen, the actual measured values of the loggers in the system at any time, using the F5 function key.

This procedure has been described in detail in chapter 10.6.3.

10.6.5 Status symbols and their signification

In *Fig.212 BUS interrogation: Result*, you see small round colored symbols before the individual loggers.

The signification of these symbols has been explained in detail in chapter 9.3.2.26.

10.6.6 Readout and programming of loggers in the BUS

Of course, you can also read-out loggers in the BUS system, save the measured values as a file and reprogram the logger.

Place the mouse cursor on the logger to be read-out. Then, it is converted into a hand.

Make a right mouse-click on this logger. A selection menu appears.

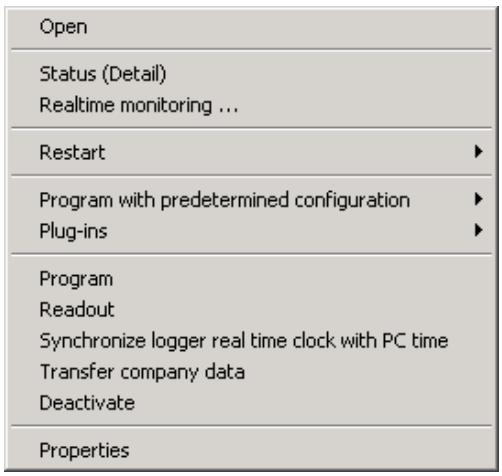


Fig.213 Context menu for loggers

a. Make a <LMC> on ***Readout***, the logger is then read-out.

This procedure as well as the saving of the measured data is extensively described in chapters 7.2 and 7.3.

In the BUS system, the measured data are always saved in the **Archived measured documents** directory, which belongs to the logger.

If you have entered a user-defined directory in the settings, it will be used. (chapter 10.4.4)

This also applies when all BUS loggers are read-out via Scheduler.

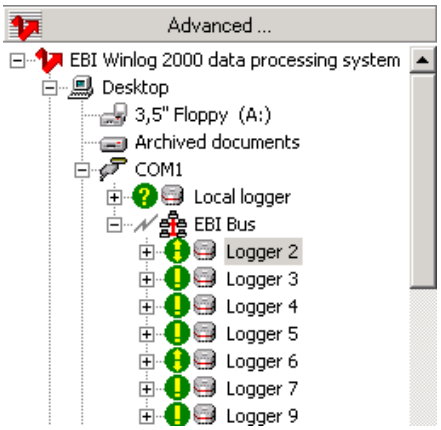


Fig.214 Directory: Archived measured documents

b. If you select ***Program*** with a <LMC> in the context menu, the logger is programmed with an interval of 15 seconds in the endless mode.

If you select ***Program with*** a <LMC> in the context menu, the logger is programmed with an interval stored in a configuration.

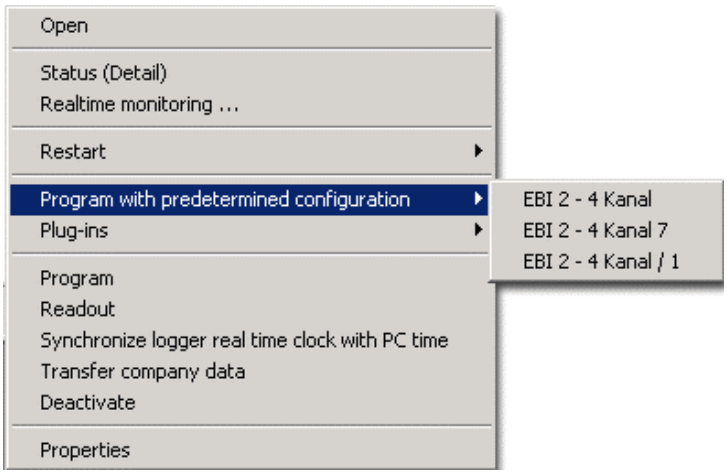


Fig.215 Programming with...

The programming and readout of loggers is described in detail in chapters 6 and 7 of this manual.

10.6.7 Setting up a group of loggers

If you have already installed a BUS system, you have the possibility to combine the multitude of the installed loggers in one or more groups.

For instance, one can imagine that you name one group *1st floor*, another group *2nd floor*. The corresponding loggers should be placed in this group.

For creating a group, proceed as follows:

Open the ***Progressed*** folder.

Make a right mouse-click on ***EBI Bus***.

In the appearing dialog, select ***New >*** and ***Grouping*** with a <LMC>.
A new folder named **New grouping** is created, which you can easily rename.

Fig.216 BUS scheme: New grouping

Double-click on the folder and edit the new name.

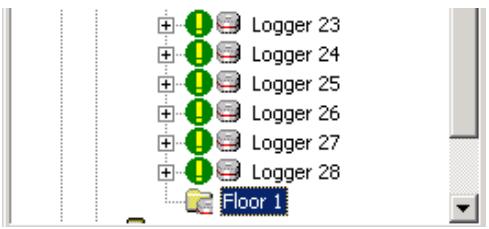


Fig.217 BUS scheme: Naming the new grouping

With the mouse, point to the logger that should be in the new folder, and pull it into the folder via drag & drop.

Proceed in the same manner with the other loggers as well.

If you have dragged all loggers into the suitable folder, your directory tree could look as follows:

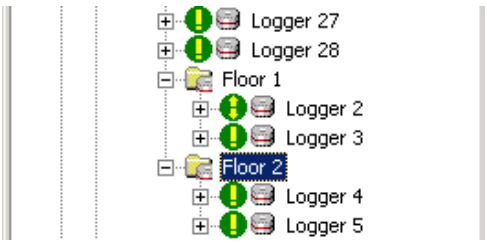


Fig.218 Example for a BUS scheme

Remember:

A plus sign ⊞ before a directory means that there are more directories in this directory. With a <LMC> on the plus sign, you open the directory.

10.7 Monitoring the BUS with the Scheduler

10.7.1 General

The *WINLOG 2000* Scheduler is a tool, with which you can automate the work with the BUS system. Its main task is to automatically execute certain tasks at certain times.

You can create several tasks and also run them simultaneously.

If you determine the BUS scheme anew, all created tasks are deleted!

The Scheduler automatically finds all loggers of the BUS system, as well as the local station with the local logger, even if they are distributed in different groupings, like in our example.

10.7.2 Functions of the Scheduler

The Scheduler is started with a <LMC> on the icon in the icon bar of the input screen of *WINLOG 2000*. Then, you obtain the following dialog box:

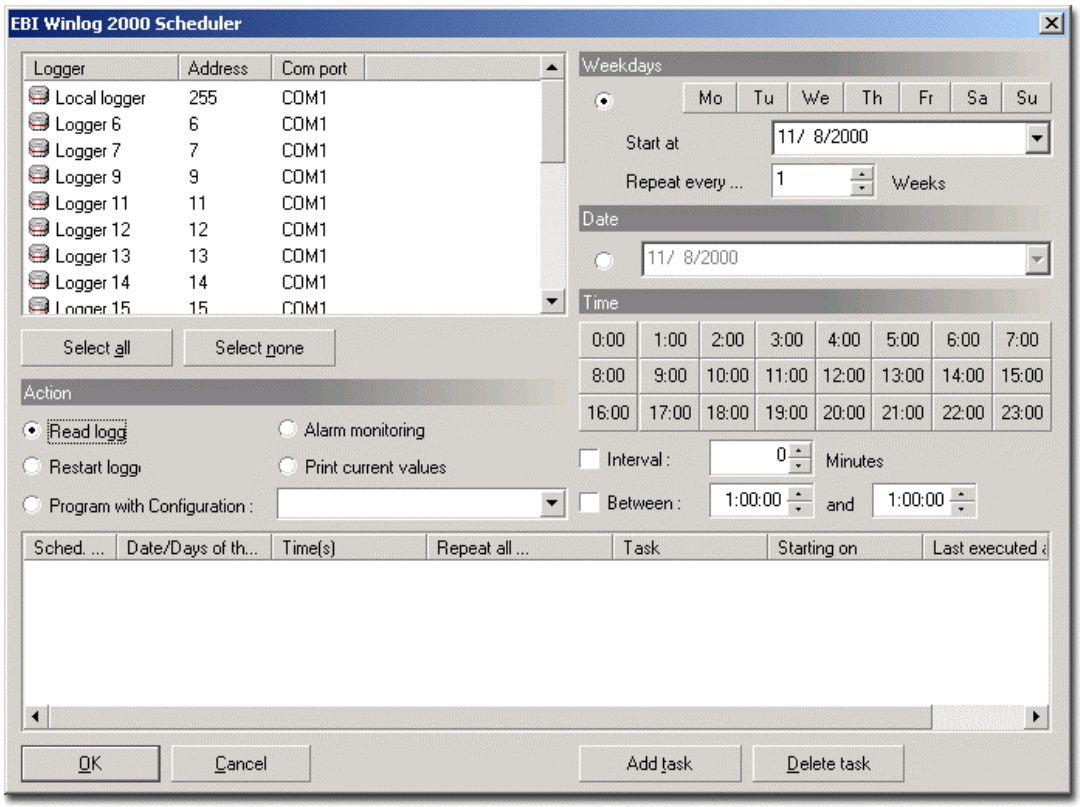


Fig.219 Scheduler: Dialog box

The individual functions are explained with an example in the following section.

The logger list
In this list, you select the logger(s), with which you want to carry out an action.

The desired loggers must be marked.

You can either click on ***Mark all*** or mark each single logger with Crtl + <<LMC>>.

With another Crtl + <<LMC>>, the logger is demarked.

Weekday mode
If you select this mode, you have the possibility to define a task which is only executed on certain weekdays.

Moreover, you can fix a starting date (Execute as of ...), and enter the interval for the repetition (Repetition every ... weeks).

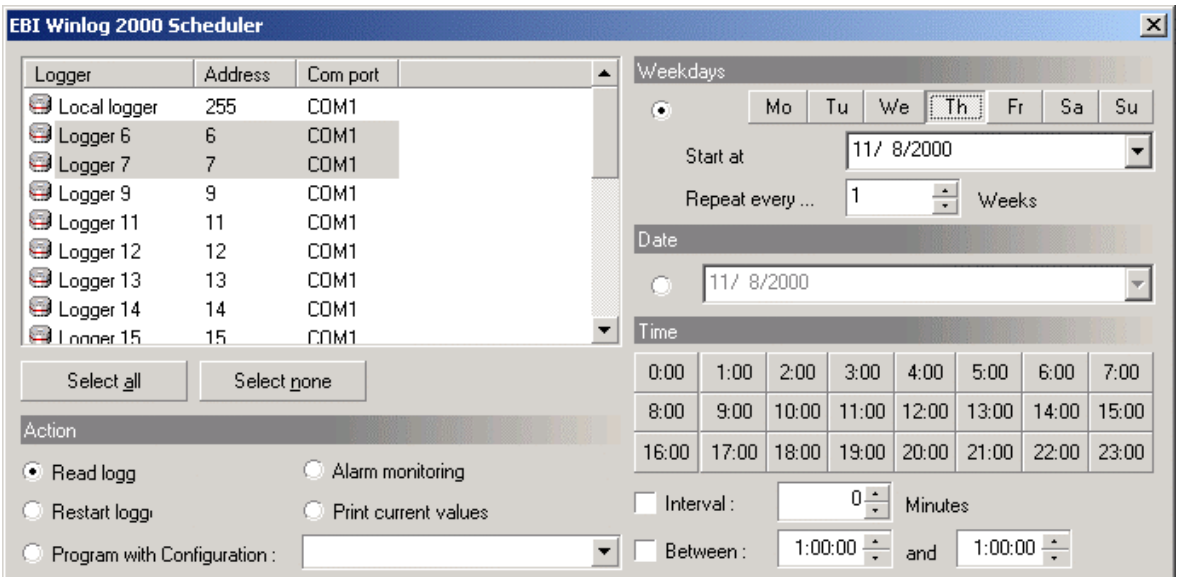


Fig.220 Scheduler: Entering weekdays

In this example, the loggers 6 and 7 of a BUS system are monitored.

On every Thursday as of 01.08.2000 these loggers should be read-out every week at 16:00 hours.

The files are automatically saved in the data directory belonging to the logger. This becomes visible as **Archived documents**, if you make a <LMC> on the plus sign next to the logger.

If you have defined a user-defined directory in the settings, this directory is used for saving.

Date mode
If you select this mode, the created task is only executed at the indicated date.

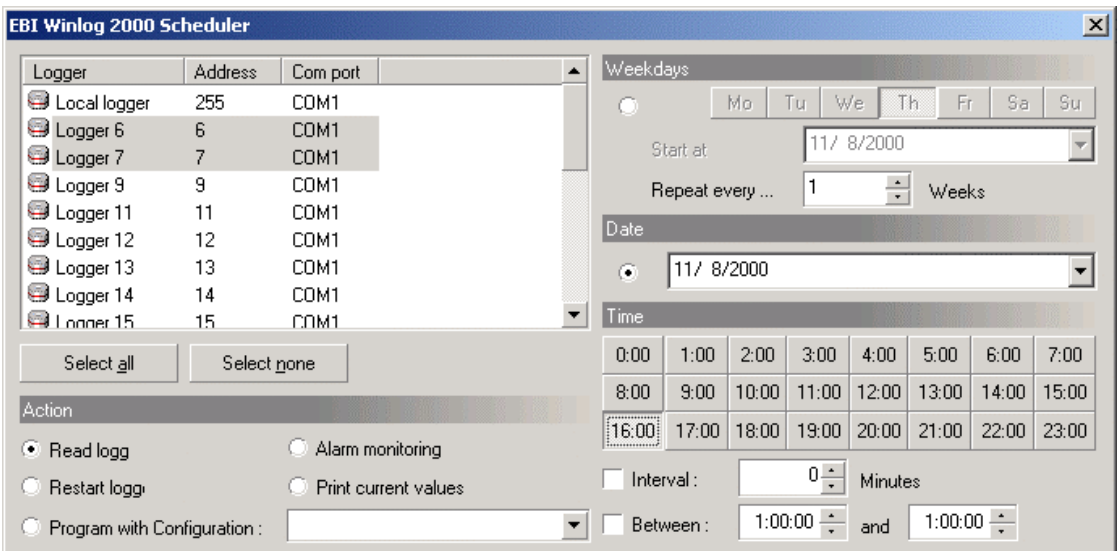


Fig.221 Scheduler: Date entry

In this example, we have chosen that the loggers are only read-out on 11/08/2000 at 16:00 hours.

Time
Here select the time(s) at which you want to have the task executed.

You have the possibility to have a task executed at certain times (e.g. 12:00, 13:00,...), or you indicate an interval (in minutes).

If you indicate an interval, you have the additional possibility to define a period of time, during which the task is to be executed.

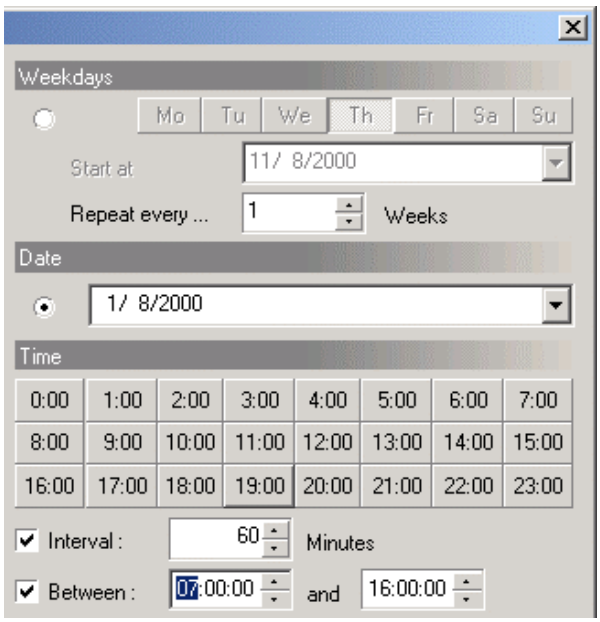


Fig.222 Scheduler: Defining the period

Here, we have defined that both loggers must only be read-out on 11/08/2000, every hour between 7:00 and 16:00 hours.

Action

Here, select the desired action for the task:

Readout: The logger data are read-out and saved automatically.

Restart: The logger is restarted in the endless measurement mode.

Program with scheme: The logger is programmed with the indicated configuration scheme and then restarted.

Alarm control: The measured values of the logger are monitored.
If the measured values are outside the programmed limit values, an alarm is generated.
You can define the alarm behavior of *WINLOG 2000* in this dialog. See *Fig.224 Scheduler: Alarm* control.

Print actual measured values: At the time defined by yourself, the actual measured values of all marked loggers are printed out.

Don’t forget to switch-on your printer.

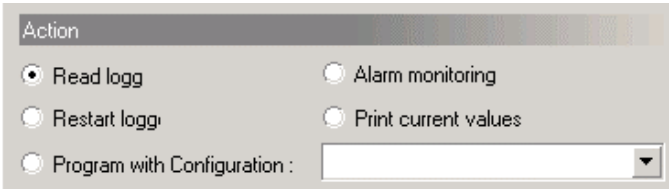


Fig.223 Scheduler: Defining the action

Click on the desired action.

Edit a new task with a <LMC> on ***Add task***.

10.7.3 Alarm control

If you have selected the ***Alarm control***, a dialog box opens once again. This is activated with a <LMC> on ***Add task***.

For perfecting the task, you can activate additional points in the alarm co ntrol. For this purpose, there are the following possibilities:

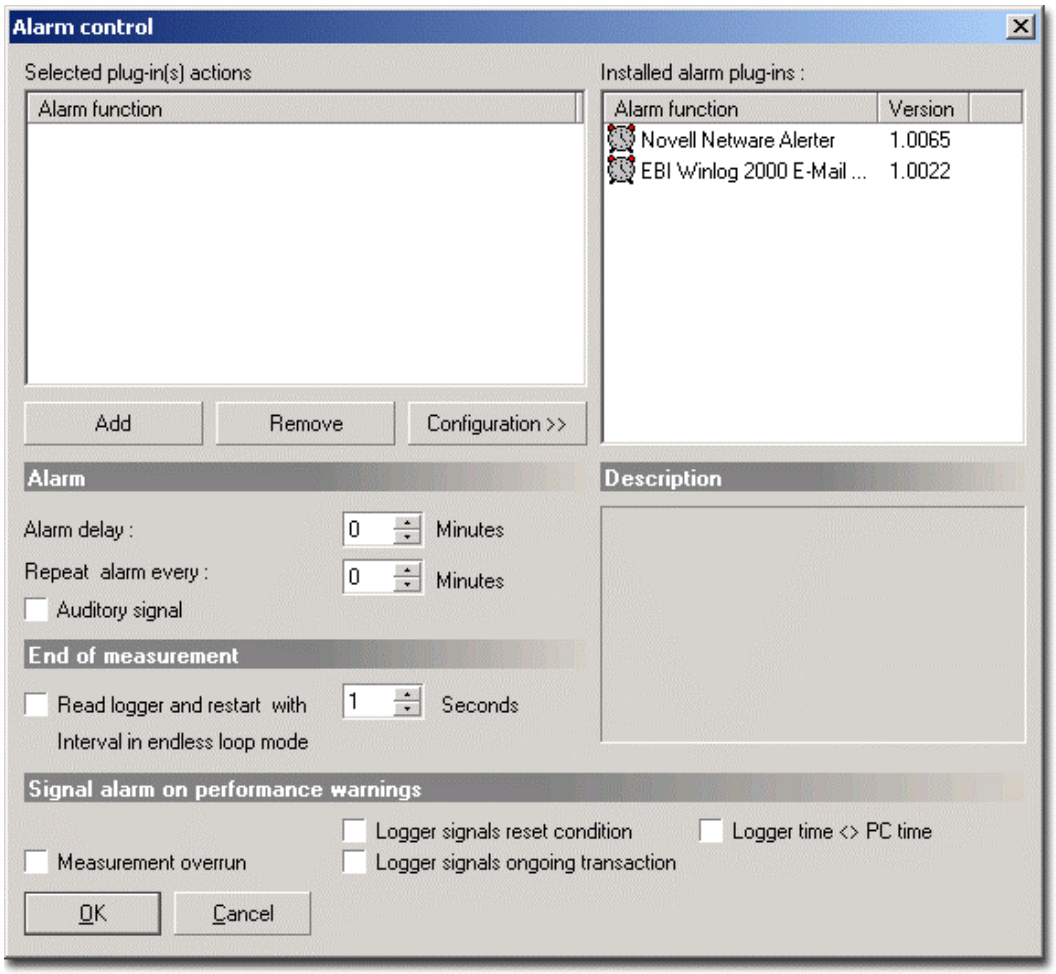


Fig.224 Scheduler: Alarm control

10.7.3.1 E-mail alarm

At present, there is a plug-in, which sends an e-mail in case of an alarm. If you want to use this plug-in, mark it in the **Registered alarm plug-ins** panel. With a <LMC> on ***Add***, the plug-in is taken over and can be adapted to your data with a <LMC> on ***Configure >>***.

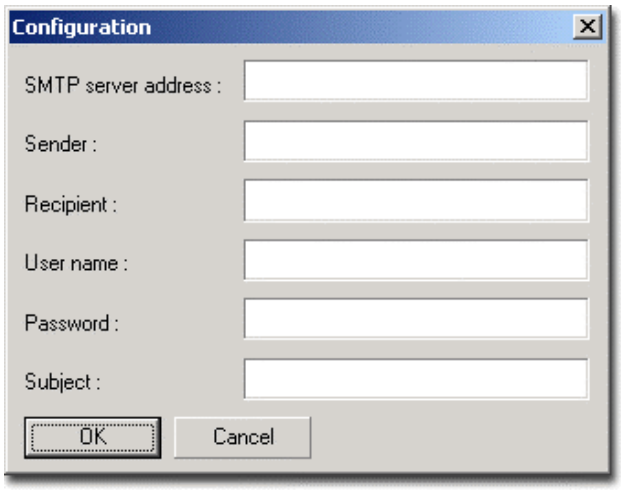


Fig.225 Scheduler: Plug-in

We have kept the plug-ins in English language on purpose. The advantage is that, with new plug-ins, not all language files (7 at present) need to be modified. The plug-in is then connected in a file which is used by all language versions.

Now, fill-in the indicated text fields.

SMTP server address: Here, enter the server address.

Sender: Here, enter your sender.

Recipient: Here, enter the address of the receiver, to whom the alarm message should be sent.

Password: Here, enter your password of the SMTP server.

Subject: Here, enter in clear text, what should appear as subject line.

Example:

It is possible to send e-mails to a handy.

The prerequisite is, of course, that the computer is connected to the telephone network via a modem.

An example of sending the alarm message to a handy is shown in the following figure.

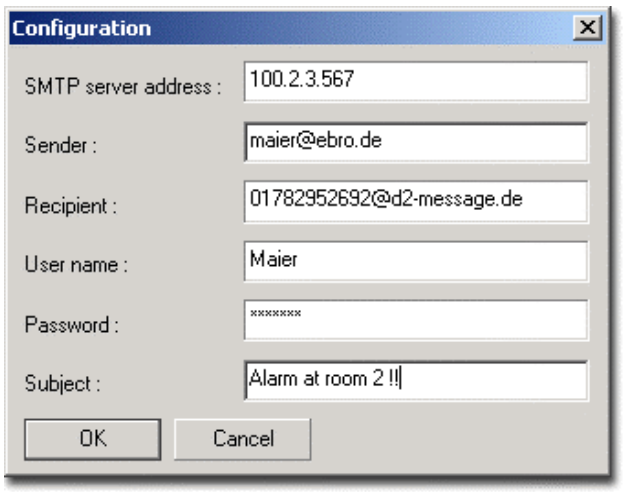


Fig.226 Scheduler: SMTP configuration

Confirm your entries with ***OK***.

A <LMC> on the ***Cancel*** field takes you back to the previous dialog box.

Depending on the network company, it is possible that you must once configure the handy for e-mail reception. For this purpose, see your handy manual.

10.7.3.2 Alarm output of the interface

The EBI-AE-BUS interface provides a potential-free contact, which is closed by *WINLOG 2000* in case of an alarm.

Herewith, you can drive an external alarm device such as a flashing lamp or a horn.

The alarm is generated, when a violation of a limit value has occurred. Thereby, it does not really matter, which logger has caused this violation.

In the dialog-box alarm control, you can activate an alarm repetition or define how long an alarm is delayed.

It is feasible that not every short violation of the upper or lower limit must cause an alarm (e.g. defrosting procedure in refrigerating plants).

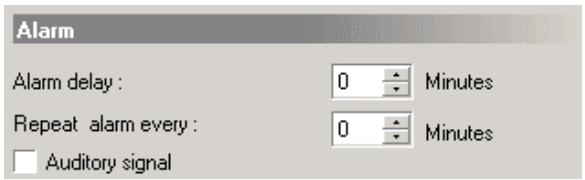


Fig.227 Scheduler: Alarm configuration

10.7.3.3 Acoustic signal

If you edit a task which checks limit value violations, and you activate the optoion **Acoustic signal** in *Fig.227 Scheduler: Alarm configuration*, the alarm will proceed as follows:

When a limit value violation occurs, the PC speaker will sound a short beep, and the monitor will show following message:

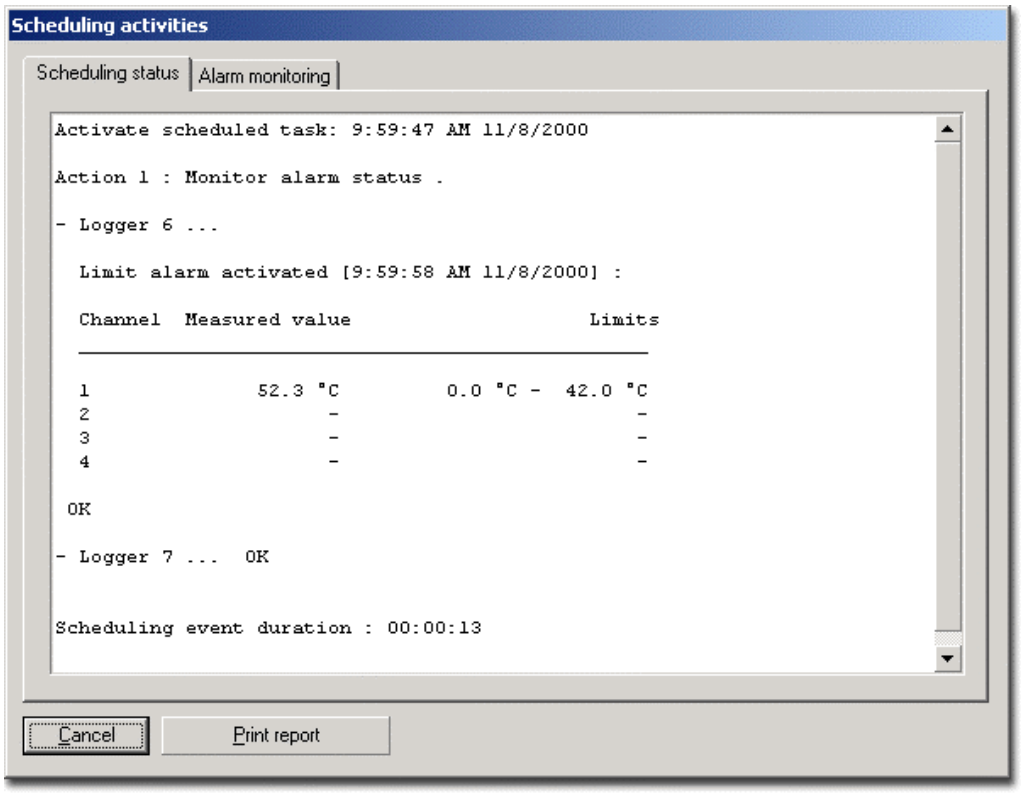


Fig.228 Scheduler: Protocol

With ***Cancel***, you leave this message, with ***Print report*** this message is printed out.

If you have selected a WAV-file for an acoustic alarm in ***Settings – General*** (chapter 9.3.2.1), this is now heard.

10.7.3.4 Relay card in the PC

There is the possibility to a relay card in PC.

This modification demands the built in of a relay card and the corresponding settings in the driver software.

10.7.4 Editing tasks

Now, you have edited your first task.

It is important to know that this task cannot be modified. If you have made a typing error or want to enter other times, this task must be deleted, and a new task must be edited.

You can see your newly edited task in the task list:

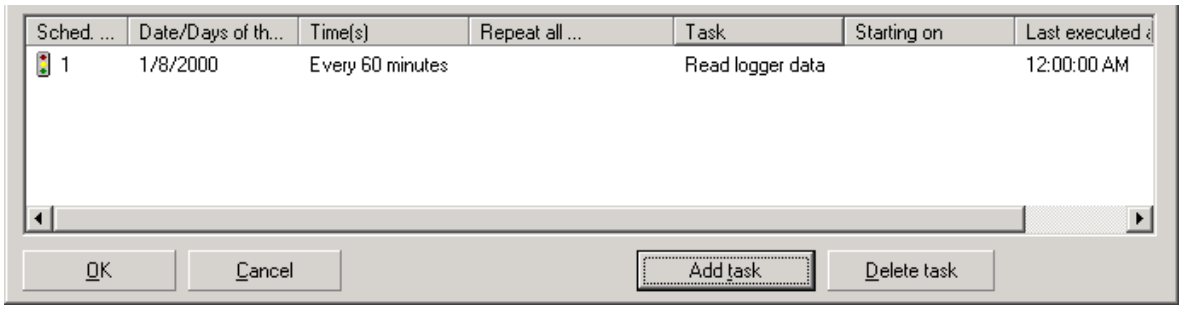


Fig.229 Scheduler: New task

If you have edited further tasks, these also appear in the above list.

Example:

We want to edit one more task, which interrogates the BUS every 5 minutes.

This interrogation must be active around the clock.

With a <LMC> on the icon in the icon bar of the input screen of *WINLOG 2000*, the entry dialog-box for the Scheduler appears.

1st step: We first mark all ***Weekdays***

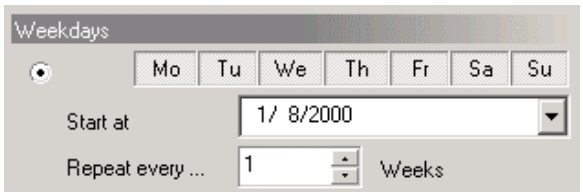


Fig.230 Task: New editing - Date

2nd step: ***Execute as of*** 01.08.2000

3rd step: ***Interval***: 5 minutes

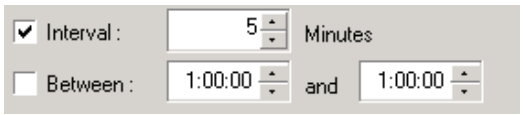


Fig.231 Task: New editing - Interval

4th step: ***Alarm control*** activated

Fig.232 Task: New editing – Alarm control

5th step: Mark one or more logger as shown in "10.7.2 Functions of the Scheduler"

6th step: ***Add task***, the dialog-box for alarm control appears.

7th step: Confirm with ***OK***.

In the task bar, this second task is now listed as well.

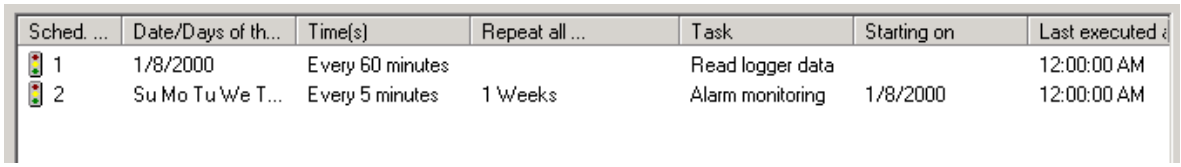


Fig.233 Task: New editing - Task bar

8th step: With ***OK***, we leave the dialog box of the Scheduler, and the Scheduler is started.

10.7.5 Activating/deactivating tasks

If you have called the Scheduler, you can see all edited tasks in the task list. At the beginning of each line for a task, you see a small symbolized traffic light. If you can recognize colors, this task is activated.

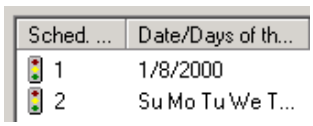


Fig.234 Task: Activating/Deactivating

If you want to deactivate a task, make a right mouse-click on the task. You obtain this little menu:

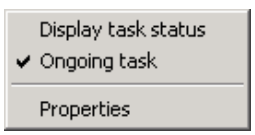


Fig.235 Task: Menu

With a <LMC>, you can place a hook next to ***Task is activated***, the task is activated.

If you remove this hook, the task is deactivated. You can also recognize it on the now grayed traffic light in the task list.

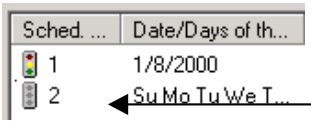


Fig.236 Task deactivated

Example:

For our example, we have only activated task 2.

10.7.6 Task properties

You can later mark a task in the task list. With a right mouse-click, the menu appears, where you can select the properties.

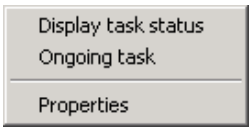


Fig.237 Task: Menu properties

Click on ***Properties***, in order to be able to see them.

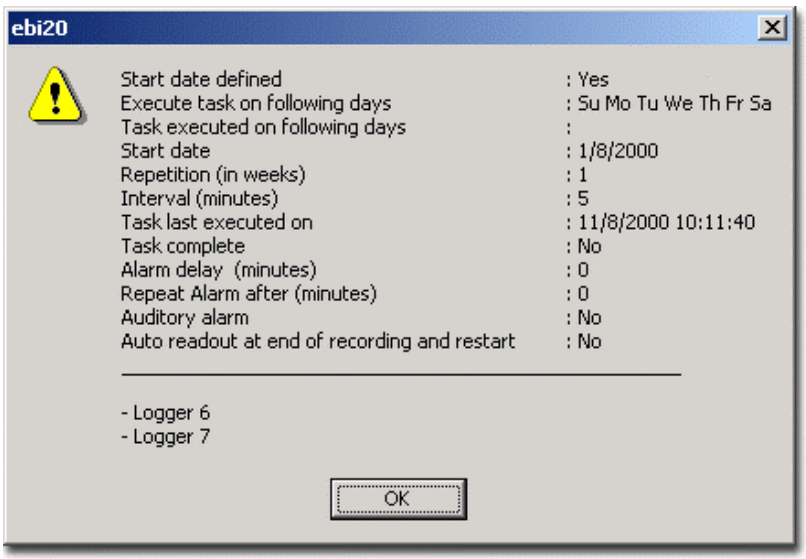

ebi20
Start date defined : Yes
Execute task on following days : Su Mo Tu We Th Fr Sa
Task executed on following days :
Start date : 1/8/2000
Repetition (in weeks) : 1
Interval (minutes) : 5
Task last executed on : 11/8/2000 10:11:40
Task complete : No
Alarm delay (minutes) : 0
Repeat Alarm after (minutes) : 0
Auditory alarm : No
Auto readout at end of recording and restart : No
- Logger 6
- Logger 7
OK

Fig.238 Task: Properties

10.7.7 Executing a task

Since task 2 is activated, the BUS is interrogated every 5 minutes. Thereby, the following protocol box appears on the screen:

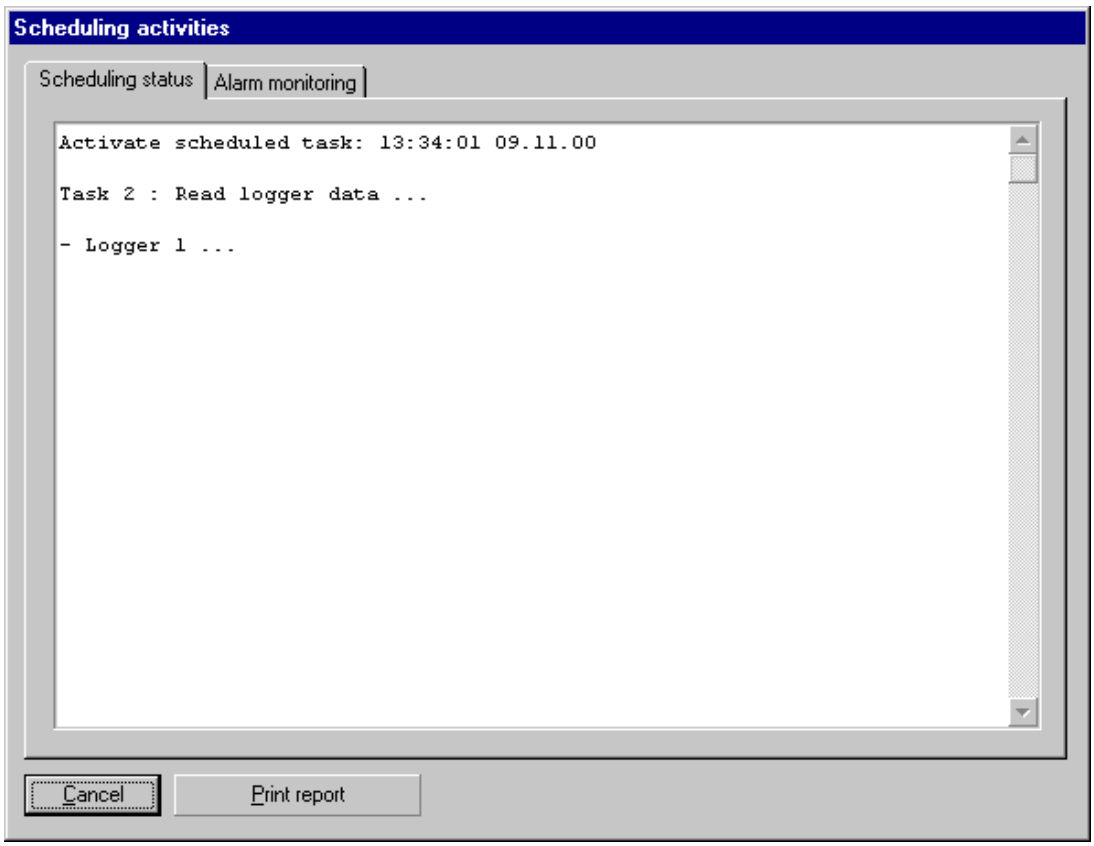


Fig.239 Task: Protocol box

Here, you can see on-line, that task no. 2 is executed. In this example the logger is read out.

10.7.8 Protocol file of the task

Each task writes its results into a protocol file. This file is saved in the *WINLOG 2000* directory.

T0200007262143.log	1.128	26.07.2000	21:46:04 A
T1200008011308.log	3.040	01.08.2000	13:48:18 A

Fig.240 Task: Protocol files

When a new task is opened and executed, it creates a protocol file. The name of this file is composed of “T“, the year, the month, the day and the time of the creation. The file suffix “log” is added automatically.

You can open this file with every editor, e.g. Notepad.

Another possibility is via the Scheduler. Make a right mouse-click on the desired task. In the opening menu, click on ***Display task status***.

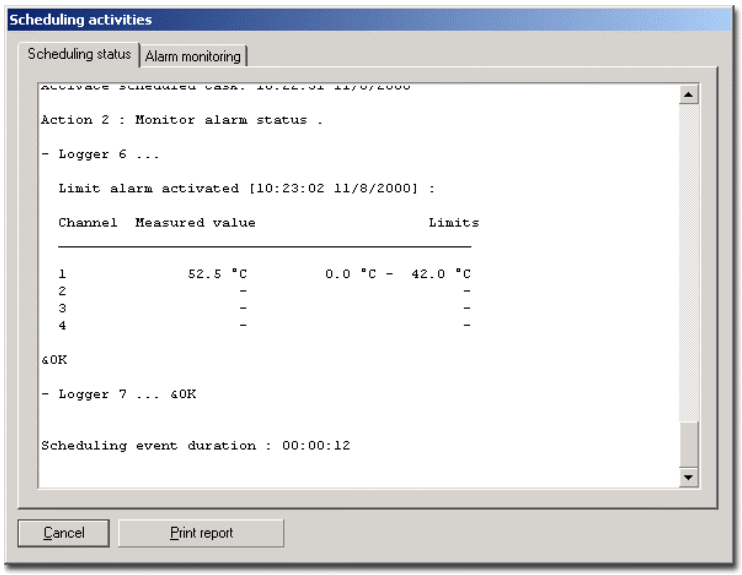


Fig.241 Task: Status in the protocol box

With ***Print report*** you can print-out the protocol, with ***Cancel*** you leave the protocol.

10.7.8.1 Alarm list

On a second page of the protocol, there is the alarm list in which all alarms are registered.

For this purpose, click on the ***Alarm monitoring*** panel.

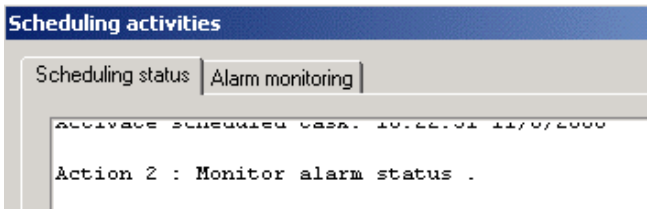


Fig.242 Alarm monitoring

You obtain a list of the occurred alarms.

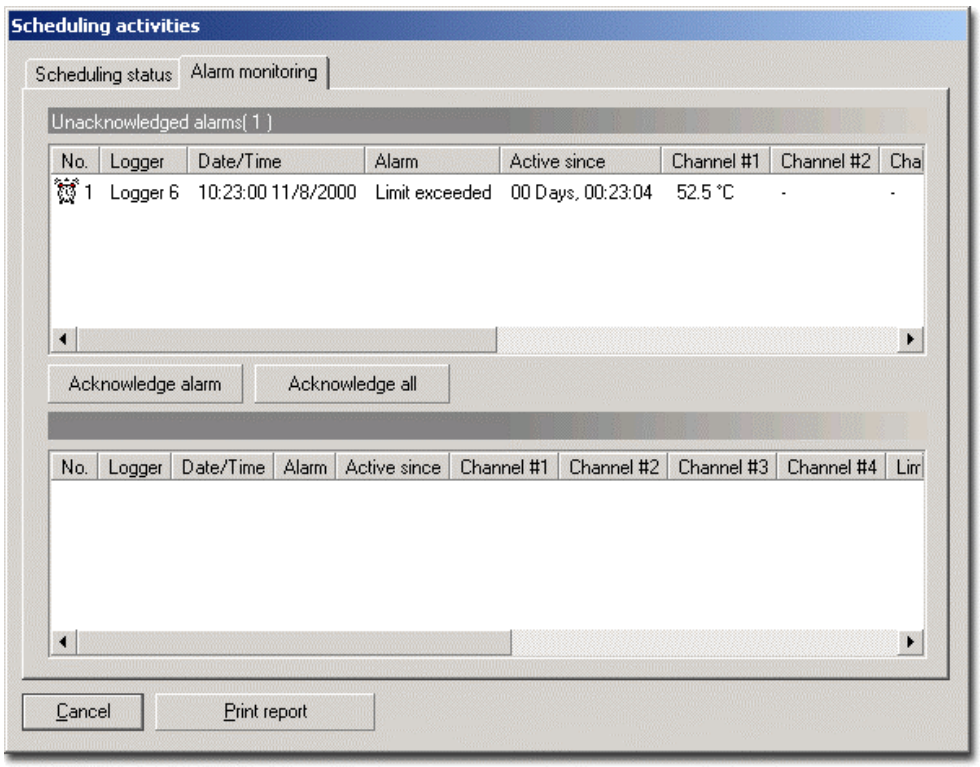


Fig.243 Alarm list

Now, you can confirm one or all alarms by marking an alarm and clicking on ***Acknowledge alarm***.

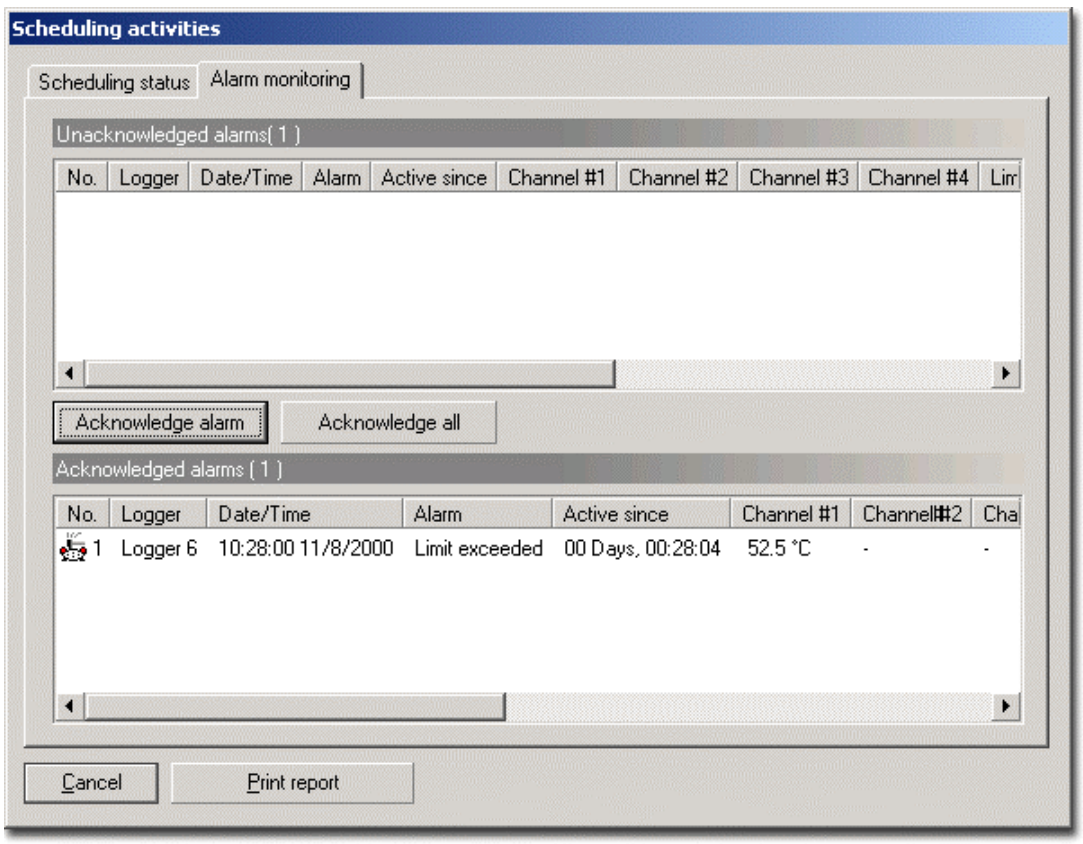


Fig.244Acknowledge Alarm

Now, the confirmed alarms are deleted from the alarm list and registered in a new list ***Acknowledged alarms***.

If another alarm comes from this logger or from another logger, the active scheduling dialog-box looks like this:

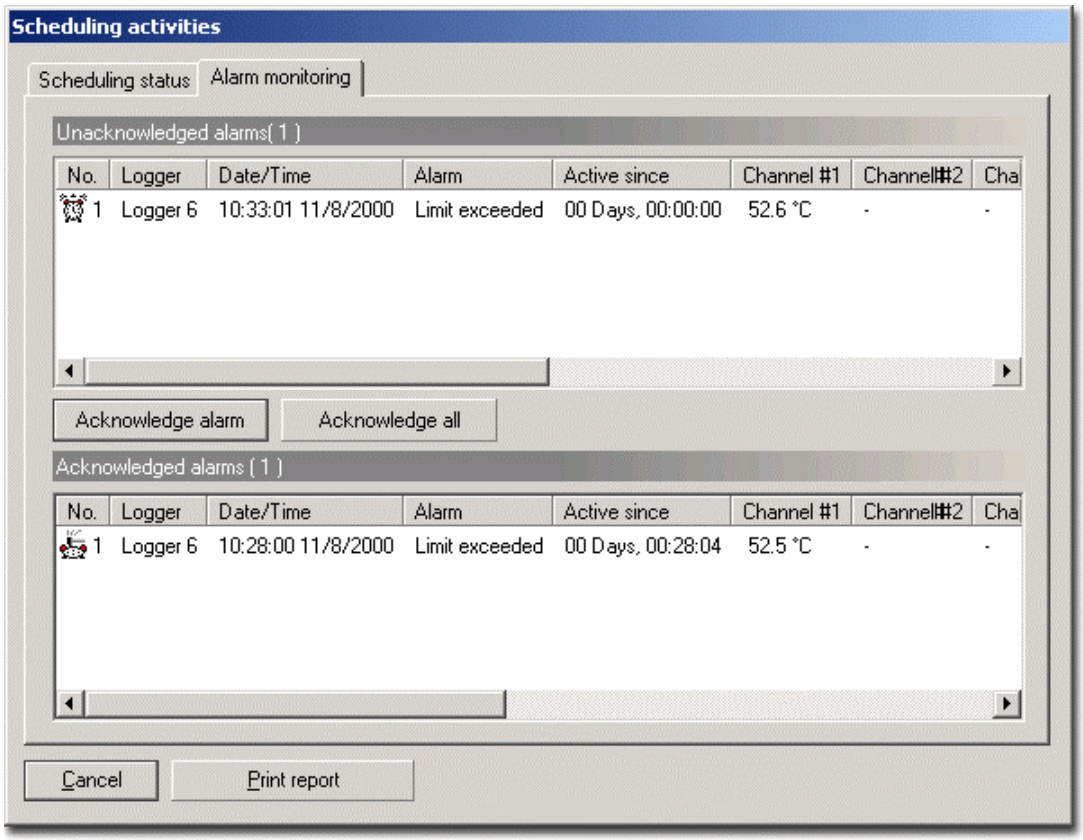

Scheduling activities
Scheduling status
Alarm monitoring
Unacknowledged alarms(1)
No. Logger Date/Time Alarm Active since Channel #1 Channel#2 Cha
1 Logger 6 10:33:01 11/8/2000 Limit exceeded 00 Days, 00:00:00 52.6 °C - -
Acknowledge alarm
Acknowledge all
Acknowledged alarms (1)
No. Logger Date/Time Alarm Active since Channel #1 Channel#2 Cha
1 Logger 6 10:28:00 11/8/2000 Limit exceeded 00 Days, 00:28:04 52.5 °C - -
Cancel
Print report

Fig.245 2nd alarm has occurred

With a double mouse-click on the not yet confirmed alarm message, a new dialog box is opened:

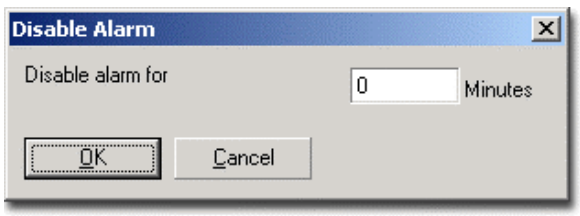


Fig.246 Alarm suppression

Here, you can indicate for how long this alarm must be suppressed.

You must enter a time between 0 and 32,000 minutes. After confirming with a <LMC> on ***OK***, the following message appears:

Fig.247 Duration of the alarm suppression

11 Working with WINLOG 2000 - V (21 CFR Part 11)

11.1 Introduction

WINLOG 2000 - V includes all functions of the Professional version. In addition to this, it also contains features which ensure the full compliance with the guidelines on electronic datasets and electronic signatures in 21 CFR Part 11.

In the following chapters we will explain the quite complex Part 11 of the FDA guidelines 21 CFR, as well as the functionality of this software.

Please also read Chapter 11.3.5 regarding the requirements towards the end user of this software version!

11.2 The meaning of the 21 CFR Part 11 guidelines

In 1997, the Food and Drug Administration of the United States (FDA) released the guideline 21 CFR Part 11, which defines the requirements towards documentation in electronic form.

To ensure the full compliance with 21 CFR Part 11 it is important to implement Standard Operating Procedures (SOPs). They are meant as an addition to the functions of the *WINLOG 2000 - V*.

In order to comply with the requirements of 21 CFR Part 11, following features have been implemented:

Password strategies

There are numerous password options as for instance a minimal password length, a limited duration of passwords, and security procedures in case of wrong password entries.

User administration

In order to prevent the software access of unauthorized persons, the user rights can be defined in a differentiated way.
By using a rights structure in connection with password protected access

it can be ensured that only authorized users have access to relevant software functions.

Electronic signatures

All measurement value files generated by *WINLOG 2000* as well as the changes performed on them can be related to a specific user by way of electronic signatures. The signatures are saved with the document and can't be deleted or edited. Additional security can be gained by generating a second electronic signature by a supervising person.

Audit trails

All changes performed on a *WINLOG 2000*-generated document, starting with its creation and including every modification due to the use of formulas or user-specific units, are documented in chronological order with date and time, user name and type of action. This documentation is saved in the respective data file and can neighter be edited nor deleted. So, all manipulation on the measurement data can be traced.

Data security

The measurement data read by *WINLOG 2000* are stored in a binary, non-editable form. All additional information like audit trail and electronic signatures are also coded and can only be read with *WINLOG 2000*.

The manipulation of measurement data files on operating system level by deletion, copying or moving can not be traced or prevented by *WINLOG 2000*. Therefore it is necessary that the employed operating system be equipped with professional file security mechanisms and that a suitable rights structure be implemented. Recommended operating systems are Microsoft Windows NT 4, Windows 2000, or Windows XP.

11.3 Implementation of the 21 CFR Part 11 guidelines

11.3.1 User administration

WINLOG 2000 – V integrates a user administration tool which enables the administrator to create user accounts with defined rights of access to the software functions. Each user is assigned a unique user name and password. This ensures the compliance with paragraph 11.300:

(a) Maintaining the uniqueness of each combined identification code and password, such that no two individuals have the same combination of identification code and password.

11.3.2 Logon and password strategies

In order to use the *WINLOG 2000 – V* software, a user must log on. The password functions implemented in this software, together with the Standard Operating Procedures (SOP), comply with the paragraphs 11.10, 11.100, 11.200, and 11.300 of the 21 CFR Part 11.

The validity of the passwords in *WINLOG 2000 – V* can be limited to a defined period of time, thus complying with paragraph 11.300:

(b) Ensuring that identification code and password issuances are periodically checked, recalled, or revised (e.g. to cover such events as password aging).

The combination of unique and expiring passwords prevents the usage of the same password more than once.

Also, the number of denied login requests can be limited with *WINLOG 2000 – V*. You can define this number according to your company's SOPs. When this number is exceeded, the respective user account can be blocked, and a warning E-mail message can be issued to an authorized person. By this measure, conformity with paragraph 11.300 is attained:

(c) Use of transaction safeguards to prevent unauthorized use of passwords and/or identification codes, and to detect and report in an immediate and urgent manner any attempts at their unauthorized use to system security unit, and, as appropriate, to organizational management.

11.3.3 Audit trails

WINLOG 2000 – V implements Audit Trails, which record the creation and modifications of measurement data files with time and date, user name and type of action in chronological order. The Audit Trail is part of the measurement data file and can neither be edited nor deleted.

A full compliance with the guideline of paragraph 11.10 is achieved by the use of the Audit Trail in conjunction with an access control on file level as provided in the Windows NT 4, 2000, and XP operating systems:

(e) Use of secure, computer-generated, time-stamped Audit-Trails to independently record the date and time of operator entries and actions that create, modify, or delete electronic records. Record changes shall not obscure previously recorded information. Such Audit-Trail documentation shall be retained for a period at least as long as that required for the electronic records and shall be available for agency review and copying.

The contents of an Audit Trail can be viewed on screen and can also be printed together with the measurement data. If WINLOG files are transferred to another computer and opened there with *WINLOG 2000 – V*, all informations of the Audit Trail will be still available, as requested by paragraoh 11.10:

(b) The ability to generate accurate and complete copies of records in both human readable and electronic form suitale for inspection, review, and copying by the agency. Persons should contact the agency if there are any questions regarding the ability of the agency to perform such a review and copying of the electronic records.

11.3.4 Electronic signatures

Documents generated from measurement values by *WINLOG 2000 - V* can be digitally signed by the user. The signature consists of the user name and the corresponding password.

§ 11.200 Electronic signatures components and controls

(a) Electronic signatures that are not based upon biometrics shall:

(1) Employ at least two distinct identification components such as an identification code and password.

(i) When an individual executes a series of signings during a single, continuous period of controlled system access, the first signing shall be executed using all electronic signature components; subsequent signings shall be executed using at least one electronic signature component that is only executable by, and designed to be used only by, the individual.

(ii) When an individual executes one or more signings not performed during a single continuous period of controlled system access, each signing shall be executed using all of the electronic signature components.

Electronic signatures must appear both in the screen display and the printouts of the measurement data, as requested by paragraph 11.50:

(a) Signed electronic records shall contain information associated with the signing that clearly indicates all of the following:

(1) The printed name of the signer;

(2) The date and time when the signature was executed; and

(3) The meaning (such as review, approval, responsibility, or authorship) associated with the signature.

(b) The items identified in paragraphs (a) (1), (a) (2), and (a) (3) of this section shall be subject to the same controls as for electronic records and shall be included as part of any human readable form of the electronic record (such as electronic display or printout).

Due to the fact that the information of the Audit Trail of *WINLOG 2000 - V* is securely integrated in a measurement data file and can not be edited or deleted, the paragraph 11.70 guideline is implemented:

> *Electronic signatures and handwritten signatures executed to electronic records shall be linked to their respective electronic records to ensure that the signatures cannot be excised, copied, or otherwise transferred to falsify an electronic record by ordinary means.*

11.3.5 Requirements towards the user of *WINLOG 2000 – V*

In order to comply with the FDA regulations, certain additional procedures need to be established and implemented by the user working with ***ebro*** data loggers and *WINLOG 2000 – V.*

Subpart C – Electronic Signatures

§ 11.10 Controls for closed systems

(a) When a data logger is used to monitor a process in order to evaluate this process on the basis of the recorded data, it must be ensured that the data reflect the monitored process. With other words, data recorded during the transport of the logger to and from the measuring location must easily be identified as not related to the monitored process. A removal of the logger from the measuring location, as well as any other manipulation of the logger must be also prevented.

In addition to an adequate operation, battery-powered electronic measuring instruments require periodical calibration and maintenance, in order to provide correct measurement values. Normally, they are part of a test tool management system, which regulates the operating conditions and the calibration and maintenance intervals (e.g. battery exchange).

Like any other software application, *WINLOG 2000 – V* also uses and depends on the resources and functionality of the operating system on which it is running. Therefore, the user must implement procedures which ensure that the OS is also compliant with FDA 21 Part 11 (e.g. system time, user access rights etc.)

(b) *WINLOG 2000* allows the archiving of measurement data documents (*.ebi) into compressed files (*.ebz). The archival periods and the way of data storage must be regulated by additional procedures.

(c) *WINLOG 2000* can only comply with the FDA regulations if it runs on operating systems which include a user and password management (e.g. Windows NT 4.0, 2000, or XP). The procedures of access control must be established by the user.

(i) The owner of the software must make sure that all users working with the system receive adequate trainings. Trainings must be regularly repeated and documented. Also, it must be made clear (by way of SOPs) that the functionality of *WINLOG 2000* is being used in conformance to the FDA regulations.

(j) The owner of the software must implement guidelines documenting the responsibility and liability of each user of the system.

(k) *WINLOG 2000* is being shipped with detailed manuals containing information on the operation and maintenance of the system. It is possible to create SOPs based on these manuals. The owner of the software is responsible for the distribution and utilization of the documentation.

§ 11.100 General requirements

(b) Before assigning an electronic signature to a person, its identity must be verified

(c) Persons using electronic signatures must “certify to the agency (FDA) that the electronic signatures in their system are intended to be the legally binding equivalent of traditional handwritten signatures”.

§ 11.200 Electronic signature components and controls

(a) The user must ensure by adequate procedures that the identification components (identification code and password) are used only by their genuine owners and that they are administered and employed in a way that ensures that “attempted use of an individual’s electronic signature by anyone other than its genuine owner requires collaboration of two or more individuals.”

§ 11.300 Controls for identification codes / passwords

(b) *WINLOG 2000* allows a limitation of the password validity to a certain period of time. It can also enforce a password change on log-on. The owner of the software must document that “identification code and password issuances are periodically checked, recalled, or revised (e.g., to cover such events as password aging)”.

(c) The owner of the software must implement “loss management procedures to electronically deauthorize lost, stolen, missing, or otherwise potentially compromised tokens, cards, and other devices to bear or generate identification code or password information, and to issue temporary or permanent replacement using suitable, rigorous controls.”

(d) *WINLOG 2000* enables a user account or system lock-up on detection of attempts of unauthorized use of passwords and/or identification codes. It can also send alert messages by e-mail to the system administrator to inform of any breach of security. The owner of the software must document all attempts of unauthorized use and ensure the security of passwords and identification codes by written agreements.

11.4 General issues on the validation of systems

A validation is a clear certification that procedures, processes, equipment, materials, operations, or systems lead to the expected results. Validations minimize the error probability and ensure a high level of confidence and security.

Every validation needs to be performed by a validation plan containing its target and a flow diagram of the activities and responsabilities involved.

The system validation of *WINLOG 2000* only makes sense in conjunction with the operating system, the printer driver, the peripheral hardware, etc. Therefore, the validation must not be limited to the software alone, but must include all other system components. Special attention must be paid to the interfaces of the system to other systems (e.g. a potential security breach caused by a connection to the internet on the computer running WINLOG).

11.5 Summary

WINLOG 2000 - V has been developed in conformance with the requirements of 21 CFR Part 11. It is meant to support the user in the implementation of the FDA guidelines on the use of electronic datasets and electronic signatures. It has been designed and tested in cooperation with leading experts in this field.

More information on 21 CFR Part 11 can be found on **www.fda.gov**.

11.6 Installing the software

11.6.1 Hardware requirements

For the *WINLOG 2000 – V* version, the same prerequisites as described in chapter 2.1 apply.

The only exception regards the operating system. As already mentioned, we strongly recommend the use of Microsoft Windows NT 4.0, Windows 2000, or Windows XP. The security level needed for the proper use of this WINLOG version can only be reached with one of these operating systems.

11.6.2 Software setup

A detailed description of the setup procedure can be found in chapter 5.

11.7 Using WINLOG 2000 - V

11.7.1 Logging in

The starting procedure is explained in detail in chapter 6.1.

The person in charge of the installation, the support and the user management of this software is defined as Administrator (admin).

Due to these extensive administrative rights, a password change is required for the user “admin” at the first start of the software.

However, when *WINLOG 2000* is first started, the default password must be used in following dialog:

Fig. 251 Login dialog

Enter „admin“ in both fields (without quotation marks and no capitals).

Click ***OK*** to continue, or click ***Cancel*** to close *WINLOG 2000.*

Now, up to 16 new users can be created. Before this, you may want to edit some settings by calling the menu item ***Edit | Settings***. Please note that this function is available only to the administrator (admin). If an unauthorized user tries to access ***Settings***, following error message appears (see chapter 13.1):

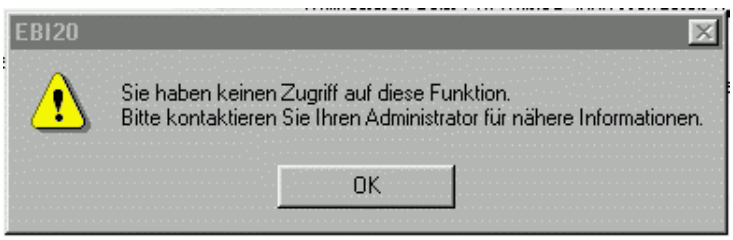

EBI20
Sie haben keinen Zugriff auf diese Funktion.
Bitte kontaktieren Sie Ihren Administrator für nähere Informationen.
OK

Fig. 252 Access denial

11.7.2 Settings

By selecting the item **Options** in the **Edit** menu, you will receive following dialog box:

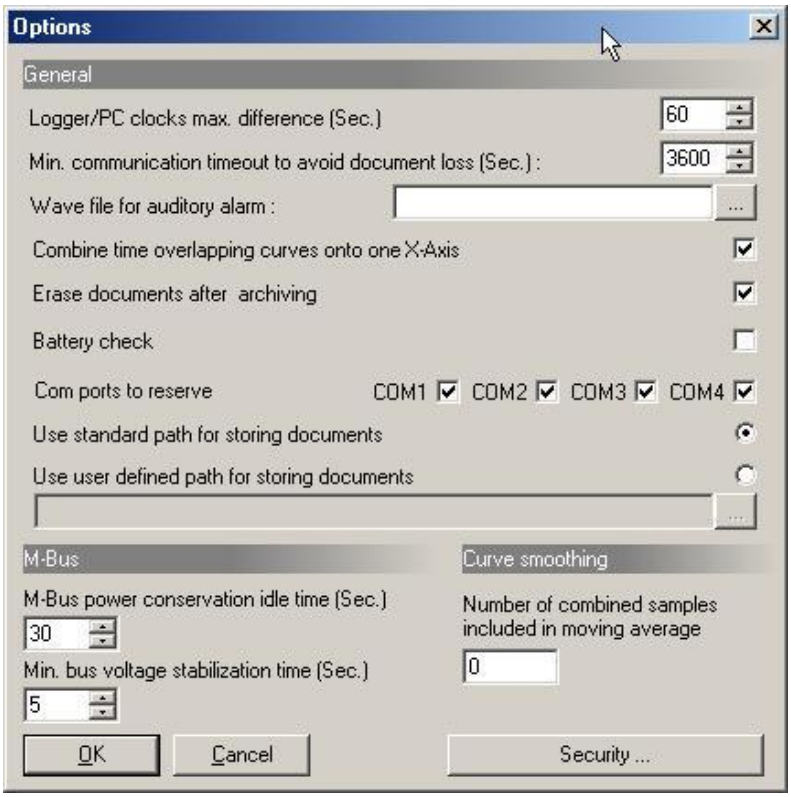


Fig 253 Options window

This box is identical to the one described in chapter 6.3.3, but for following button:

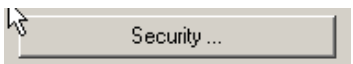


Fig 254 Security button

A <LMC> on this button opens a further dialog box where you can edit various security related settings:

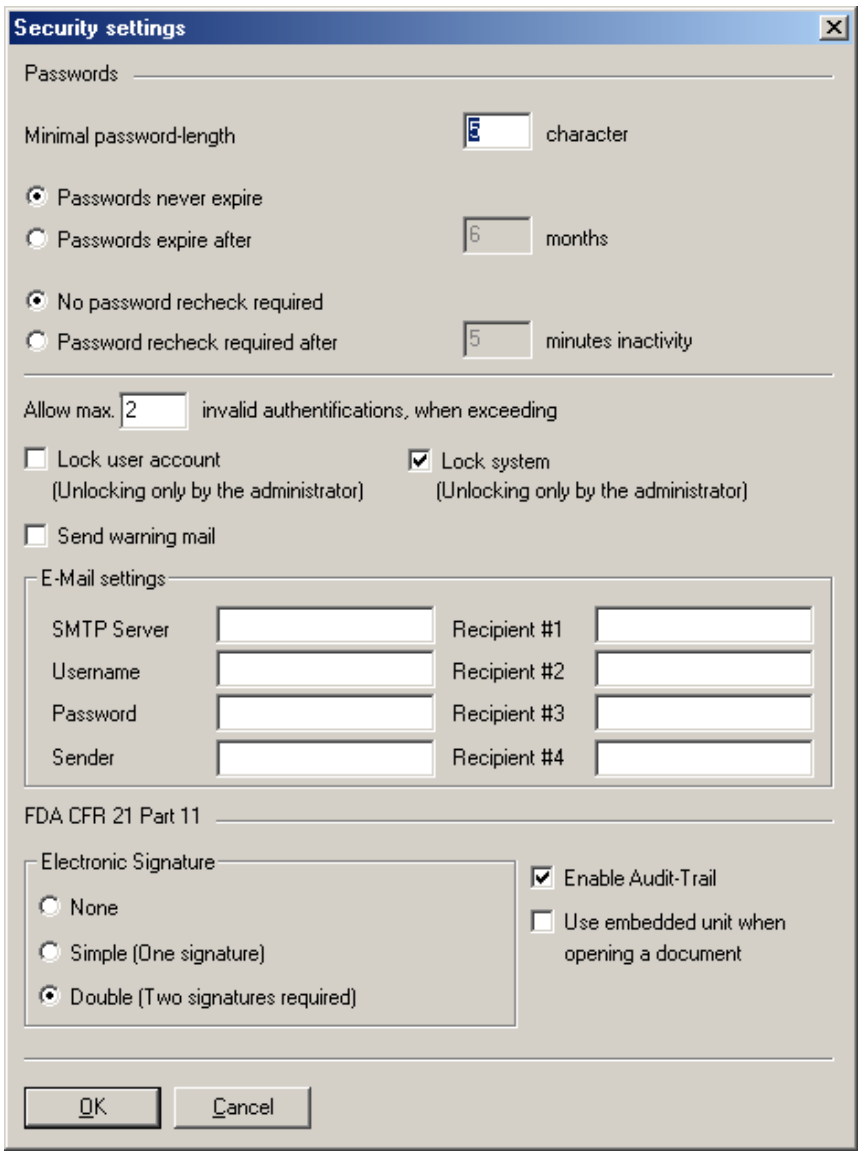


Fig 255 Security settings

Following settings are available for editing:

- **Minimal password length**

  Here you can define the required minimal length of user passwords. You can choose a password length between 5 an 12 characters. Since very short passwords are potentially insecure, you should define a minimal length of at least 6 characters. On the other hand, very long

passwords should also be avoided. Because they are hard to remember, users tend to write them down, thus rendering them worthless.

- **Password expiration**

  To increase security, the validity of passwords can be limited to a certain period of time. You have two options with regard to the password expiration:

  - Passwords never expire

    The validity of passwords is not limited to a certain period of time.

  - Passwords expire after … months

    You can select a period between 3 and 6 months, after which passwords expire. When a password expires, the user receives a message requesting him to change the password. The predefined duration period applies to every newly created password.

When a password is changed, previously used passwords can't be used again.

- **Password recheck**

  Here, an additional security feature can be activated. When WINLOG 2000 receives no user input during a certain period of time (e.g. if the user is taking a break), it is able to log off the user automatically in order to prevent unauthorized use of the software. Thus, the user is forced to log in again before resuming his activity.

  You have two administrative options:

  - No password recheck required

    A user is never logged off when inactivity is detected.

  - Password recheck required after … minutes inactivity

You can enter a period of inactivity between 5 and 60 minutes, after which the system is locked and can only be reactivated by a new login.

- **Invalid authentification**

  You can restrict the number of invalid logins (when a wrong password is used) to make an unauthorized access to the software more difficult. When a maximal number of invalid authentifications is entered, there are three possible actions available:

  - Lock user account

    When this option is checked, the user account where a repeated use of wrong passwords is detected is locked after the specified number of invalid attempts. The respective user won't be able to access the system even when the correct password is used. The lock of this account can only be removed by the administrator.

  - Lock system

    With this option active, not only the user account, but the complete system is locked after the specified number of unsuccessful login attempts. WINLOG 2000 will remain active, but no further user input will be allowed until the administrator unlocks the system.

  - Send warning mail

    As an additional consequence to repeated invalid authentifications, WINLOG 2000 can automatically send warning mails to up to 4 E-mail addresses.

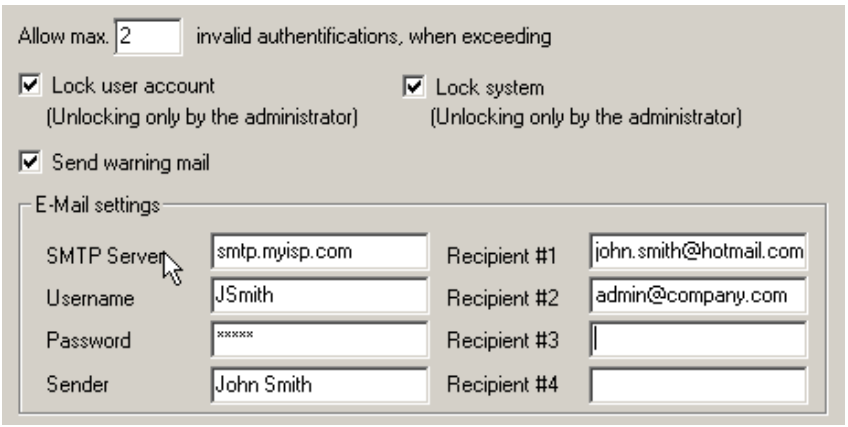


Fig 256 E-mail notification

The described actions do not exclude one another. You can activate them all or only in part.

- **Electronic signature**

  You have three options referring to the usage of electronic signatures:

  - None

    No signature is required for WINLOG 2000 documents.

  - Simple (one signature)

    Every change to a WINLOG 2000 document can be signed by an user whose account has the necessary authorization (see User rights: “Sign document”).

  - Double (two signatures required)

    If a WINLOG 2000 document is electronically signed, a second signature by a supervisor is required. A supervisor is either the administrator or any user who has the “Verify document” right.

- **Audit Trail settings**

Following options are available:

- Enable Audit Trail

  When this option is checked, all modifications to a WINLOG 2000 document are recorded within the document.

- Use embedded unit when opening a document

  The WINLOG 2000 unit administration permits the creation of user defined measurement units. If applied, these units are saved within the measurement data documents. The above option defines which units are going to be active when a stored document is opened.
  If this option is checked, user defined units are displayed. If this option is not checked, the default units apply.

After you have edited the security settings, save your changes with a <LMC> on ***OK***.

11.7.3 User and password management

On the way toward an optimal security, the user rights management is of the same importance as the password definition.

User accounts can be set up or deleted only by the administrator. Also, only the administrator can grant or revoke user rights.

The user access management function of *WINLOG 2000 - V* can be accessed via the specific icon or via the menu ***Edit – User configuration***.

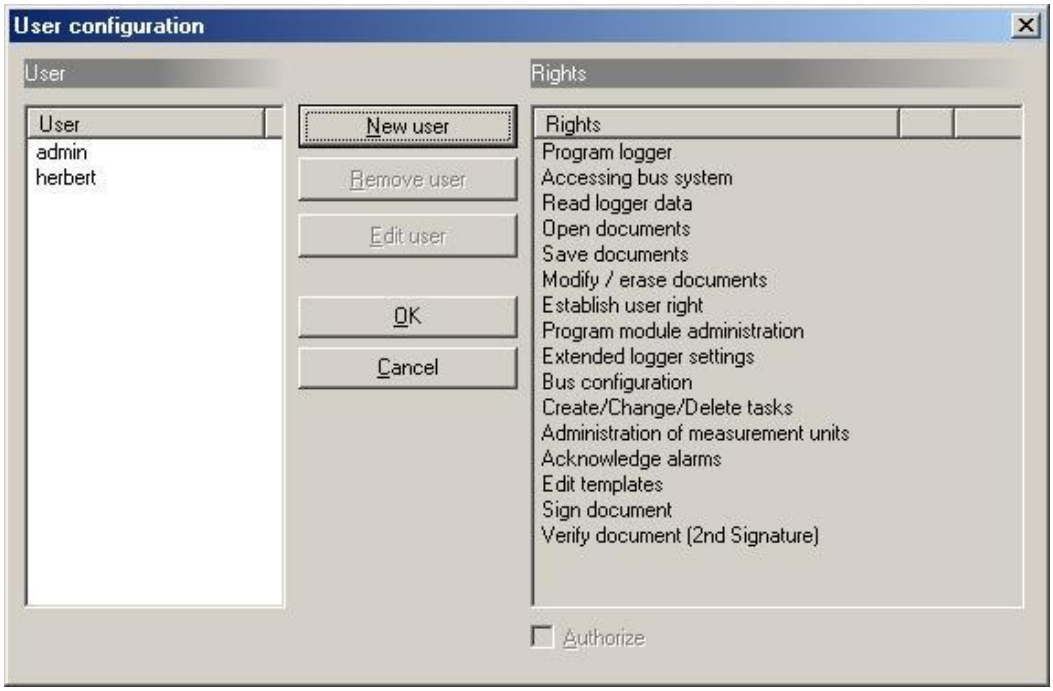


Fig. 257 User configuration

11.7.3.1 Creating a new user

With a <LMC> on the ***New user*** button the administrator can reach following input box.

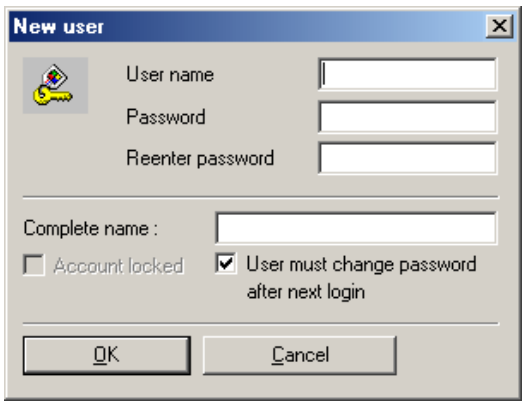


Fig. 258 New user

The field *User name* contains the user account name. You can enter the user's last name, for instance, or any other descriptive name.

The *Password* must be entered according to the limitations previously defined in the security settings (minimal length). It must not be longer than 255 characters.

The selected password must be confirmed in the field *Reenter password*.

The *Complete name* should describe the user account. Usually it contains the user's first and last name.

Finally, you can select if the new user should be forced to change his pas s-word at the first start of *WINLOG 2000 - V* by checking or un-checking the respective box.

The correctly filled input window should look like this:

Fig. 259 Completed new user input mask

If the entries are OK, they must be confirmed with a <LMC> on OK in order to create the new user. After this, a new entry will appear on the left side of the User Configuration window.

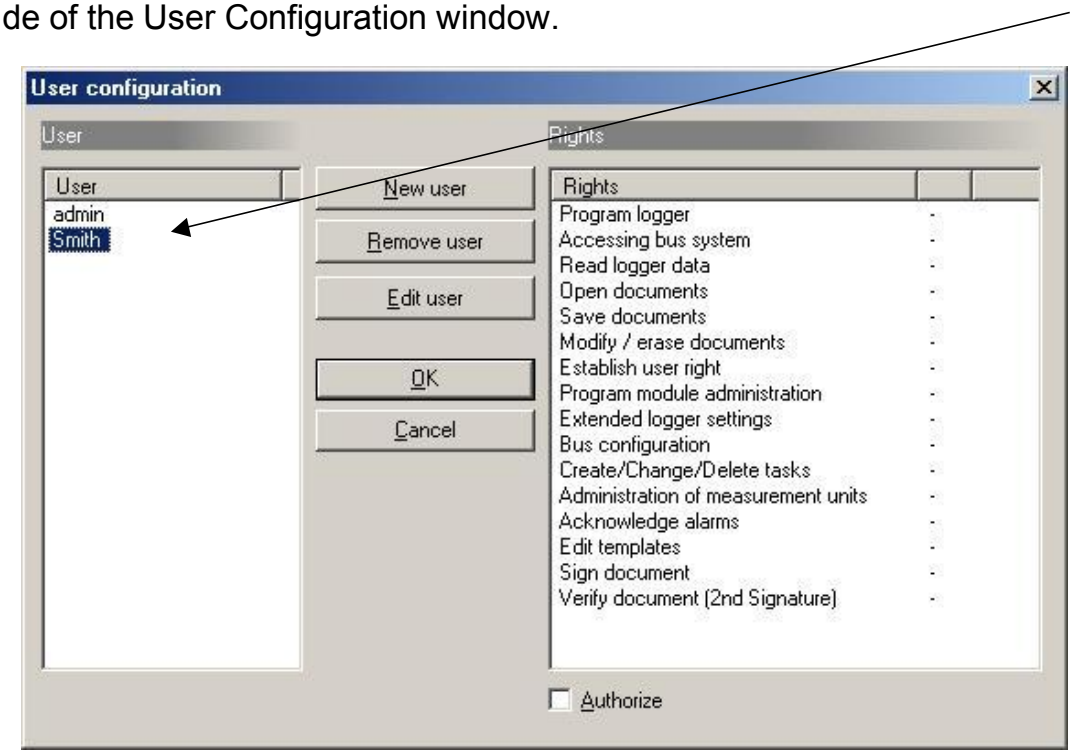


Fig 260 New user created

11.7.3.2 Granting or revoking user rights

When you highlight a name in the user list on the left side of the User Configuration window, you can immediately see which rights are available to this user: they appear marked with “OK” on the list on the right side of the window. A newly created user usually doesn’t have any rights until the Administrator grants him some.

To grant rights to a user, mark one of the rights in the list and check the field ***Authorize***. An “OK” will now appear next to the selected right.

You can also mark all the rights you want to grant to the user by holding the <CTRL> button while clicking on the different rights. When the selected rights are highlighted, check ***Authorize*** to grant them to the user.

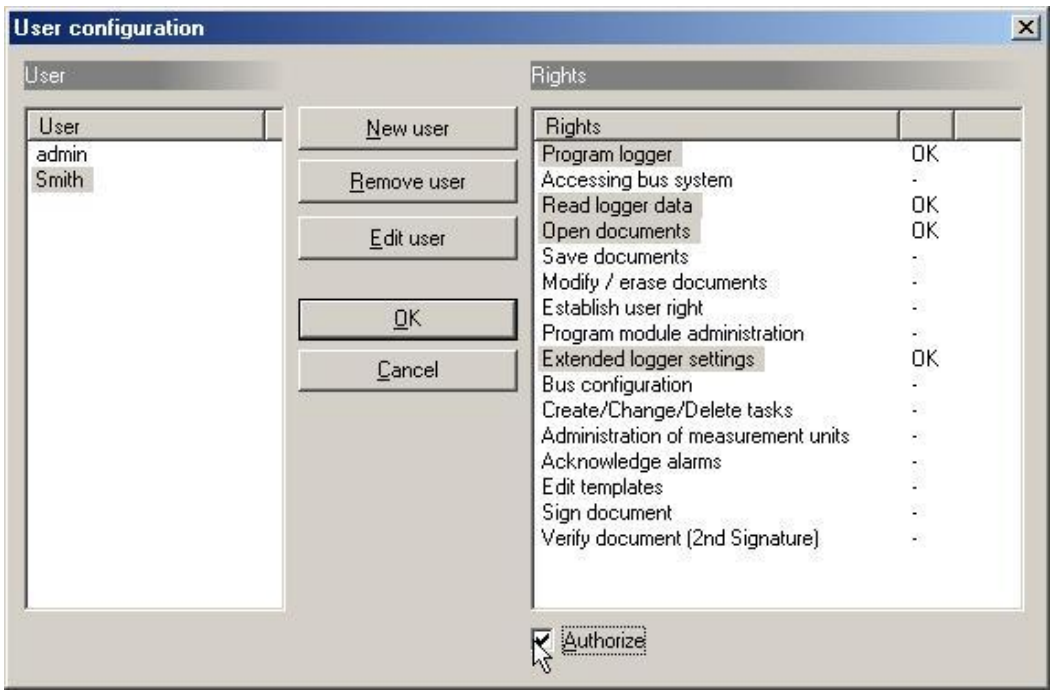


Fig 263 Granting rights

Now, the user “Smith” has all rights which are marked with “OK”. All other rights are not available to this user.

To revoke rights, mark one or more lines in the way peviously described and uncheck the ***Authorize*** button. Instead of “OK”, a dash (“-“) appears next to the selected right. This means that the user doesn’t have this right anymore.

To save your entries, click the ***OK*** button. To exit without saving, use ***Cancel.***

11.7.3.3 Password change

The Administrator can change a user password at any time. To do this, select an user in the User Configuration window and then click on the ***Edit user*** button. The new password can be entered and confirmed in the now appearing window:

Fig. 264 Changing password

Click ***OK*** to save the change, or ***Cancel*** to exit without saving.

11.7.3.4 Locking or deleting an user account

To prevent an user to access *WINLOG 2000 - V*, the administrator has two options:

a) Locking the account

To do this, select an user in the User Configuration window and then click on the ***Edit user*** button. Now check the ***Account locked*** box.

Fig 265 Locking an account

Now, the locked user can't log in to his account any more.

This option is used to temporarily lock an user account, for instance during a longer absence of this user. All settings and rights remain unchanged and are available again after unlocking the account.

A locked account can only be unlocked by the administrator by unchecking the ***Account locked*** box in the described way.

b) Removing an user

When you need to permanently delete an user account (for instance, when the user leaves the company), you must use the ***Remove user*** button in the User Configuration window. This deletes the selected user account without any further confirmation request.

This operation can not be undone. If an user account has been deleted by mistake, it must be re-created.

To preserve the existing security settings, it is recommended that the Administrator change his password at this point.

11.7.4 Programming and reading loggers

11.7.4.1 Starting a logger

This procedure is described in detail in chapter 7.

11.7.4.2 Reading a logger

This procedure is described in detail in chapter 8.

11.7.4.3 Reading saved measurement data

Of course, all measurement data files (documents) recorded with any version of *WINLOG 2000* (that is, Standard, Professional, or BUS), can be viewed with *WINLOG 2000 - V*.

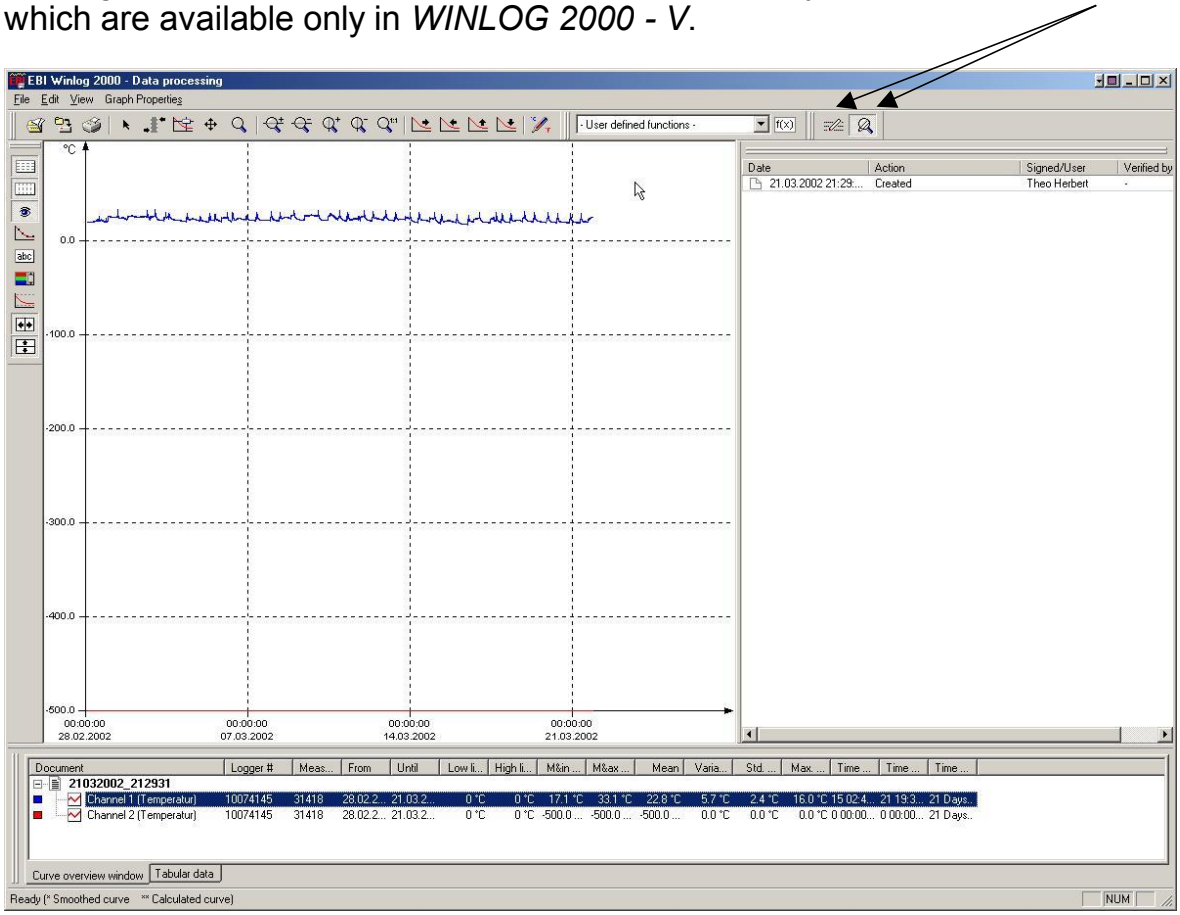
WINLOG 2000 - V can't open WLS files. These are files created with a previous release of WINLOG (e.g. 1.5E).

11.7.4.4 Tabular view of measurement values

This procedure is described in detail in chapter 9.

11.7.4.5 Graphic view of measurement values

In the graphic view of read-out measurement values, you will notice two icons which are available only in *WINLOG 2000 - V*.



Electronic signature icon

A <LMC> on the “Electronic signature” icon opens the input window for document signing.

Electronic signature

If the *Security settings* specify that an electronic signature is required, following input window will appear:

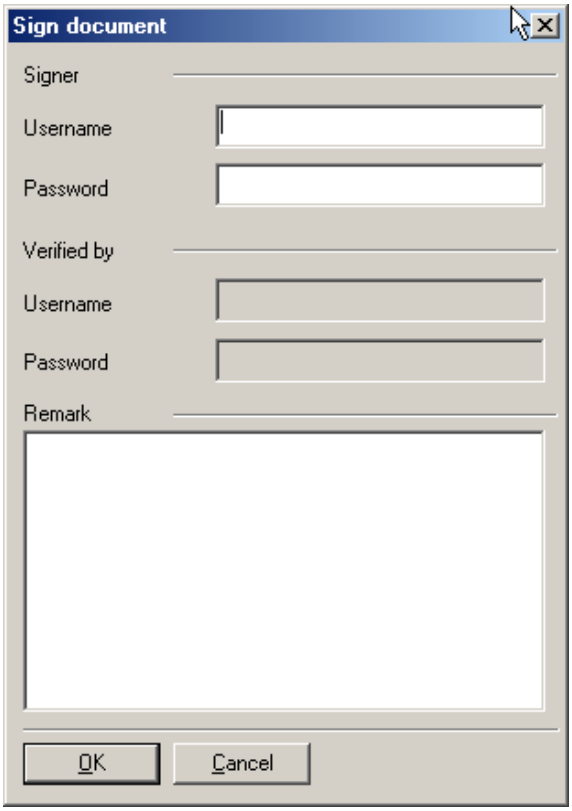


Fig 267 Electronic signature (simple)

Here, the user may enter his user name and password, as well as an optional remark, which will be displayed later in the Audit Trail.

If the *Security settings* specify that two signatures are required, the input window will look like this:

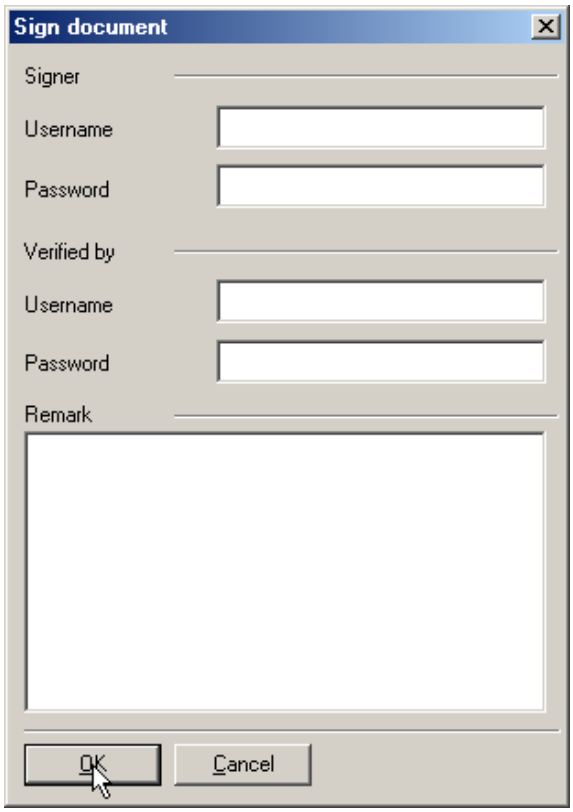


Fig 268 Electronic signature (Double)

Here, two authorized users must enter their names and passwords.

A <LMC> on ***OK*** saves the signature(s) to the document. ***Cancel*** closes this window without saving.

Audit Trail icon

With a <LMC> on the “Audit Trail” icon the graphic view changes its appearance in order to display the Audit Trail report on the right side.

Audit Trail report

Once the Audit Trail display is active, your window will look like this:

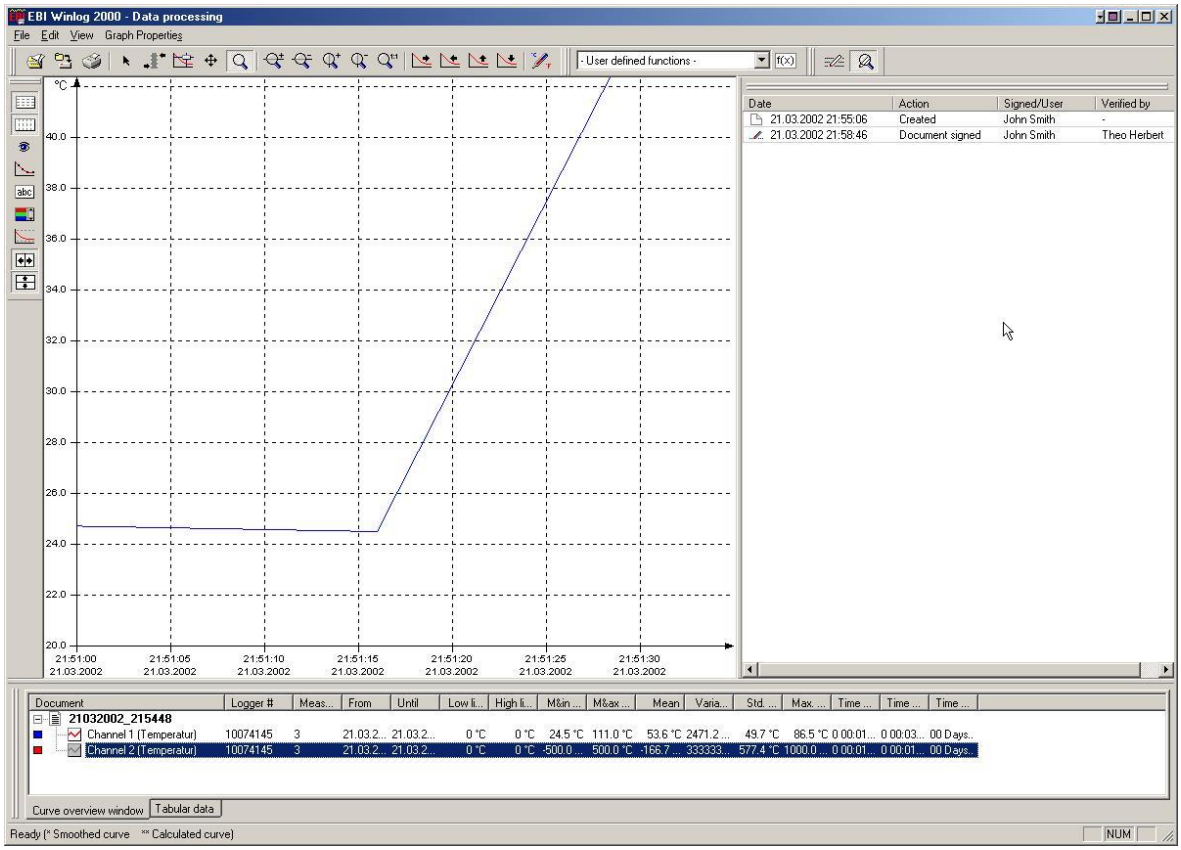


Fig 269 Audit Trail display

The first line shows the time and date of creation of this document.

The second line shows that the document was signed by two users.

Printing an Audit Trail report

If required, an Audit Trail report can also be printed. The printing procedure is described in detail in chapter 8.4 (see figure 124).

The Audit Trail print must be activated by checking ***Report***. Also, the type of the print-out can be selected.

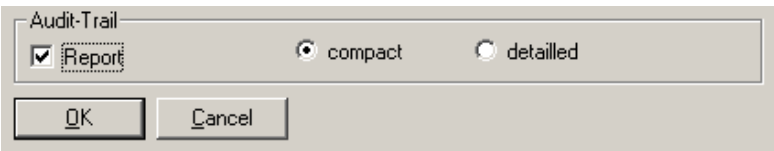


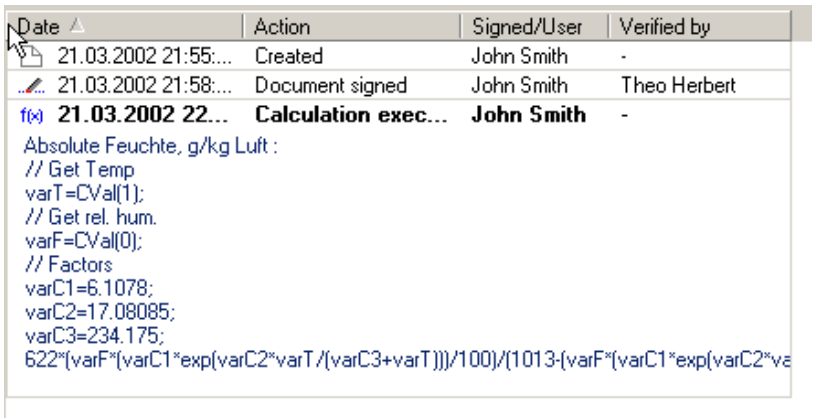
Fig 270 Audit Trail report print-out selection

Compact view: The report is printed in short form, like in this example:

Date	Action	Signed/User	Verified by
21.03.2002 21:55:...	Created	John Smith	-
21.03.2002 21:58:...	Document signed	John Smith	Theo Herbert

Fig 271 Audit Trail - Compact view

Detailed view: The report is printed in full detail. It also shows the used formulas etc.:



Date	Action	Signed/User	Verified by
21.03.2002 21:55:...	Created	John Smith	-
21.03.2002 21:58:...	Document signed	John Smith	Theo Herbert
f(x) **21.03.2002 22...**	**Calculation exec...**	**John Smith**	-

```
Absolute Feuchte, g/kg Luft :
// Get Temp
varT=CVal(1);
// Get rel. hum.
varF=CVal(0);
// Factors
varC1=6.1078;
varC2=17.08085;
varC3=234.175;
622*(varF*(varC1*exp(varC2*varT/(varC3+varT)))/100)/(1013-(varF*(varC1*exp(varC2*va
```

Fig 271 Audit Trail – Detailed view

12 Appendix

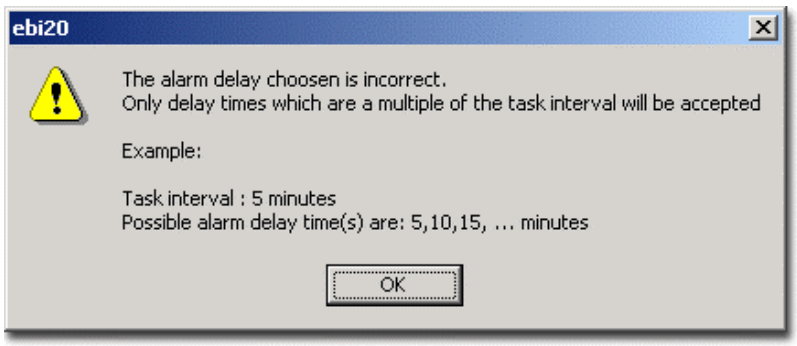
12.1 Error messages

The *WINLOG 2000* program has been developed with the necessary care. This also applies to error messages, which occur during the installation of the software and which are caused by wrong manipulation of the software, entries of unacceptable values, hardware errors of the EBI system, and logger failures. That's the reason why the errors are divided into three groups.

The errors themselves are listed in an unconstrained order. Wherever it is possible, the possible cause and the remedy are described.

In this appendix, the messages of the system are not listed, if e.g. you enter wrong or illogical values. In such a case, you are pointed towards the error with a proposal by a message in clear text.

Such an example is shown in the following message:


ebi20
The alarm delay choosen is incorrect.
Only delay times which are a multiple of the task interval will be accepted
Example:
Task interval : 5 minutes
Possible alarm delay time(s) are: 5,10,15, ... minutes
OK

12.1.1 Error messages during the installation

Error 1.1

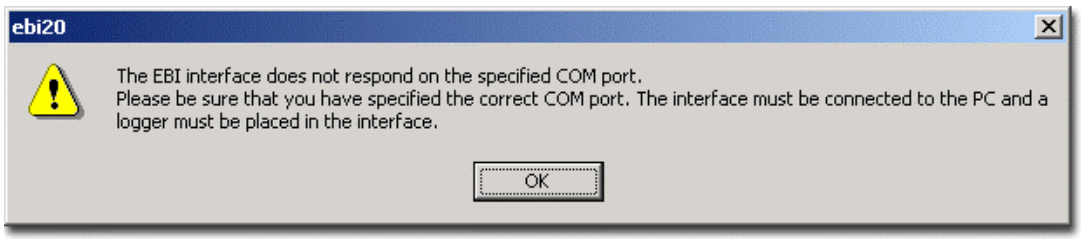
Possible cause: Service release 2 for Windows 95 is not installed. There can be problems later on.

Remedy: Procure this update from your PC retailer or in the Internet, and install it.

12.1.2 Error messages during the configuration

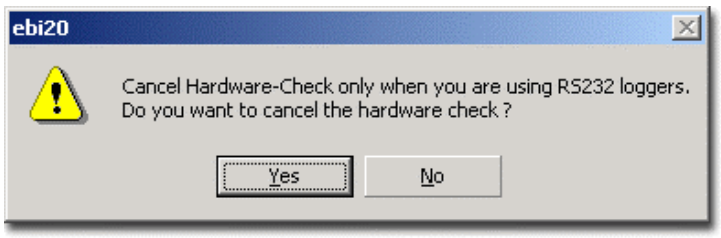
Error 2.1

Error 2.2


ebi20
The EBI interface does not respond on the specified COM port.
Please be sure that you have specified the correct COM port. The interface must be connected to the PC and a logger must be placed in the interface.
OK

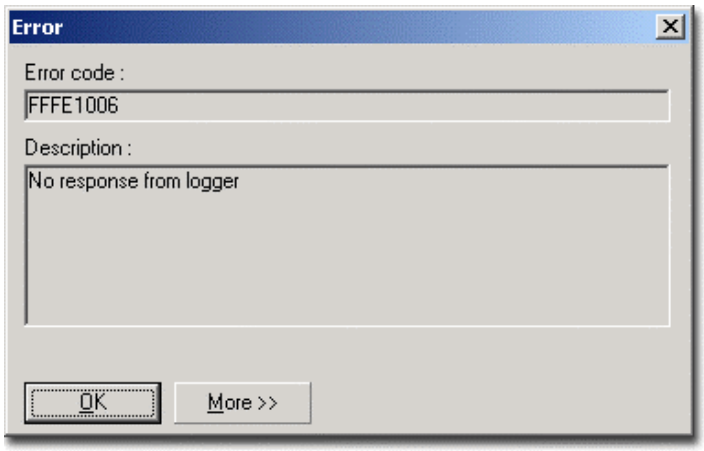
Error 2.3

Error 2.4

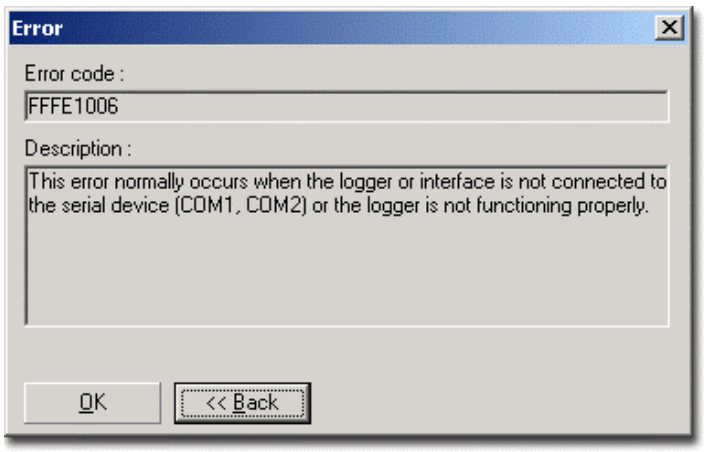


12.1.3 Error in the logger system

Error 3.1



Possible cause: This error FFFE1006 can occur for various reasons. It is always generated when there is a timeout. You can read the explanation for this error number in clear text, if you make a <LMC> on ***More >>***.


Error
Error code :
FFFE1006
Description :
This error normally occurs when the logger or interface is not connected to the serial device (COM1, COM2) or the logger is not functioning properly.
OK
<< Back

As the name already explains, a timeout is always generated, if the software could not get in contact with the logger after a certain time.

This procedure takes a few seconds, since the software tries three times to make contact.

Possible sources of errors:
Interface not connected to power supply
Interface not connected to PC
Defective data cable
Defective logger

Remedy: Check these points, also if the EBI 85A/125A logger has contact with the balls in the interface.

Error 3.2

The program WINLOG 2000 is aborted by any error.

Before restarting WINLOG 2000 close EBISERVER in the Taskmanager.

12.1.4 Logger error

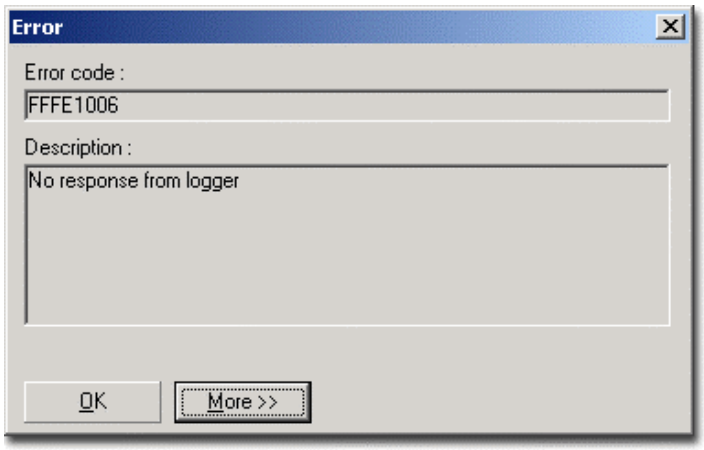
Error 4.1

Reset is a logger-internal error, which can appear due to electrostatic discharge.

Error 4.2

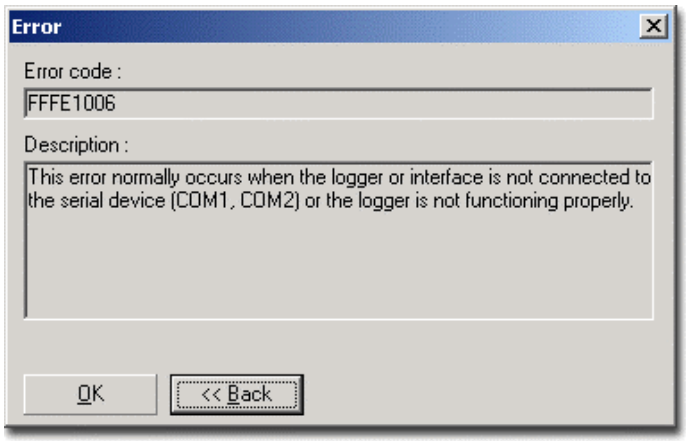
An open transaction is a logger-internal error, due to a wrong programming of logger.

Error 4.3



During the readout or programming of the logger, you can see the above error message.

Possible cause: This error FFFE1006 can appear for various reasons. It is always generated when there is a timeout. You can read the explanation for this error number in the clear text, if you make a <LMC> on ***Continue>>***.


Error
Error code :
FFFE1006
Description :
This error normally occurs when the logger or interface is not connected to the serial device (COM1, COM2) or the logger is not functioning properly.
OK
<< Back

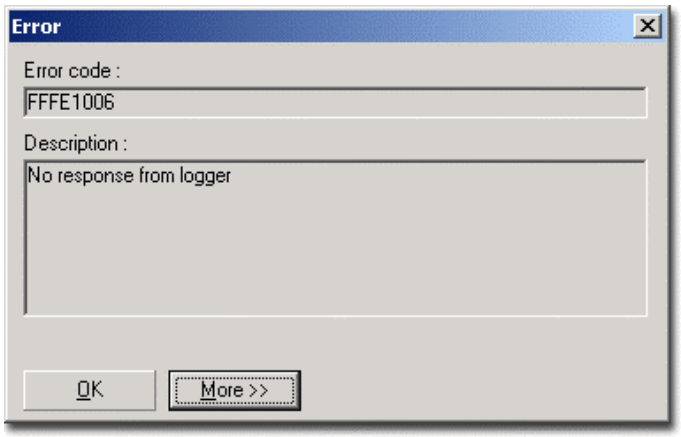
As the name already explains, a timeout is always generated, if the software could not get in contact with the logger after a certain time. This procedure takes a few seconds, since the software tries three times to make contact.

Possible error sources:

Interface not connected to power supply
Interface not connected to PC
Defective data cable
Defective logger
Logger has no contact in the interface

Remedy: Check these points. Test if another logger can be read out. If this is the case, then the logger is defective.

Error 4.4



If you get this error message during readout or programming of a logger, you can determine from the error number and the description, what is not working properly.

On the following pages, we have listed all the errors which can occur. You should also join this error number to the error description, which you enclose when returning the logger.

Error code	Description
0x80010001	You were trying to access an invalid address within the document buffer
0x80020001	Invalid Argument 1
0x80020002	Invalid Argument 2
0x80020003	Invalid Argument 3
0x80020004	Invalid Argument 4
0x80020005	Invalid Argument 5
0x80020006	Invalid Argument 6
0x80020007	Invalid Argument 7
0x80020008	Invalid Argument 8
0x80020009	Invalid Argument 9
0x80040001	Invalid memory count (EEPROM)
0x80040002	Invalid memory size (EEPROM)
0x80040003	Invalid remeasure limit
0x80040004	Invalid channel count
0x80040005	Invalid temperature format
0x80040006	Invalid limit time
0x80040007	Invalid reference
0x80040008	Invalid start address
0x80040009	Invalid size
0x8004000A	Invalid start position
0x8004000C	Invalid array element size

0x8004000D	Invalid array size
0x80080001	Node lock not possible
0x80080002	Device is locked
0x80080003	The connection to the server has been lost
0x80080004	The server is busy
0x80100001	Communication already in process
0x80100002	No readout process has been started
0x80100003	Unknown state during readout encountered
0x80100004	Unknown string during readout encountered
0x80100005	Readout has been cancelled
0x80100006	Unknown state during programming encountered
0x80100007	Invalid meas interval
0x80100008	Invalid node address
0x80100009	Programming : Nothing to do
0x8010000A	Invalid end address specified
0x8010000B	Invalid measurement type

0x00000000	**OK. No error**
0x8010000C	Invalid data during readout encountered
0x8010000D	Invalid start/stop times for start/stop measurement specified
0x8010000E	Logger has got a reset
0x8010000F	Logger is waiting for start of measurement
0x80100010	Transaction encountered
0x80100011	End of data
0x80100012	Block error during readout encountered
0x80100013	Command list of server is full
0x80100014	You were trying to access an item in a list which is not accessible
0x80100015	Server has lost command
0x80100016	Not locked
0x80100017	Block error
0x80100018	Invalid block count
0x80200001	Receiving buffer is too small
0x80400001	No connection
0x80400002	Invalid COM port name specified
0x80400003	Unable to initialize communication
0x80400004	Communication task is already active
0x80800001	Invalid variable type
0x80800002	Invalid out buffer
0x80800003	Invalid result buffer

0x80800004	Invalid node number
0x80800005	NOT USED
0x80800006	No variant reference for return
0x80800007	Invalid variant type
0x80800008	Unable to create safe array
0x80800009	Invalid variant conversion
0x8080000A	No array passed
0x8080000B	Invalid array dimension
0x8080000C	Unable to create array
0x8080000D	Unknown logger type
0x8080000E	Temporary buffer overflow
0x81000001	The file contains no data
0x81000002	Unable to read CRC from file
0x81000003	General exception
0x81000004	File read exception
0x81000005	Unable to open file
0x81000006	Unable to save file
0x81000007	Invalid read position
0x81000008	File is not open
0x81000009	Unknown error

0xFFFE1000	Unable to open COM port
0xFFFE1001	Invalid COM port state
0xFFFE1002	No local echo received
0xFFFE1003	No ACK received
0xFFFE1004	Invalid ACK
0xFFFE1005	Unsupported EBI1 logger type
0xFFFE1006	Timeout
0xFFFE1007	RX buffer overflow
0xFFFE1008	Invalid CRC received
0xFFFE1009	TX buffer overflow
0xFFFE1010	NAK received
0xFFFE1011	Invalid node
0xFFFE1012	No answer from logger

12.2 Update of WINLOG 2000

Free updates for the *WINLOG 2000* software are available in the Internet.

12.2.1 Connection with the Internet

You can download this update from the ***ebro*** website http://www.ebro.de.

Of course, the prerequisite is that your PC is capable of making a connection with the Internet.

After the request, the following homepage appears:

Fig.248 Update: Homepage of **ebro**

Select the German or the English version with a <LMC> on the corresponding flag.

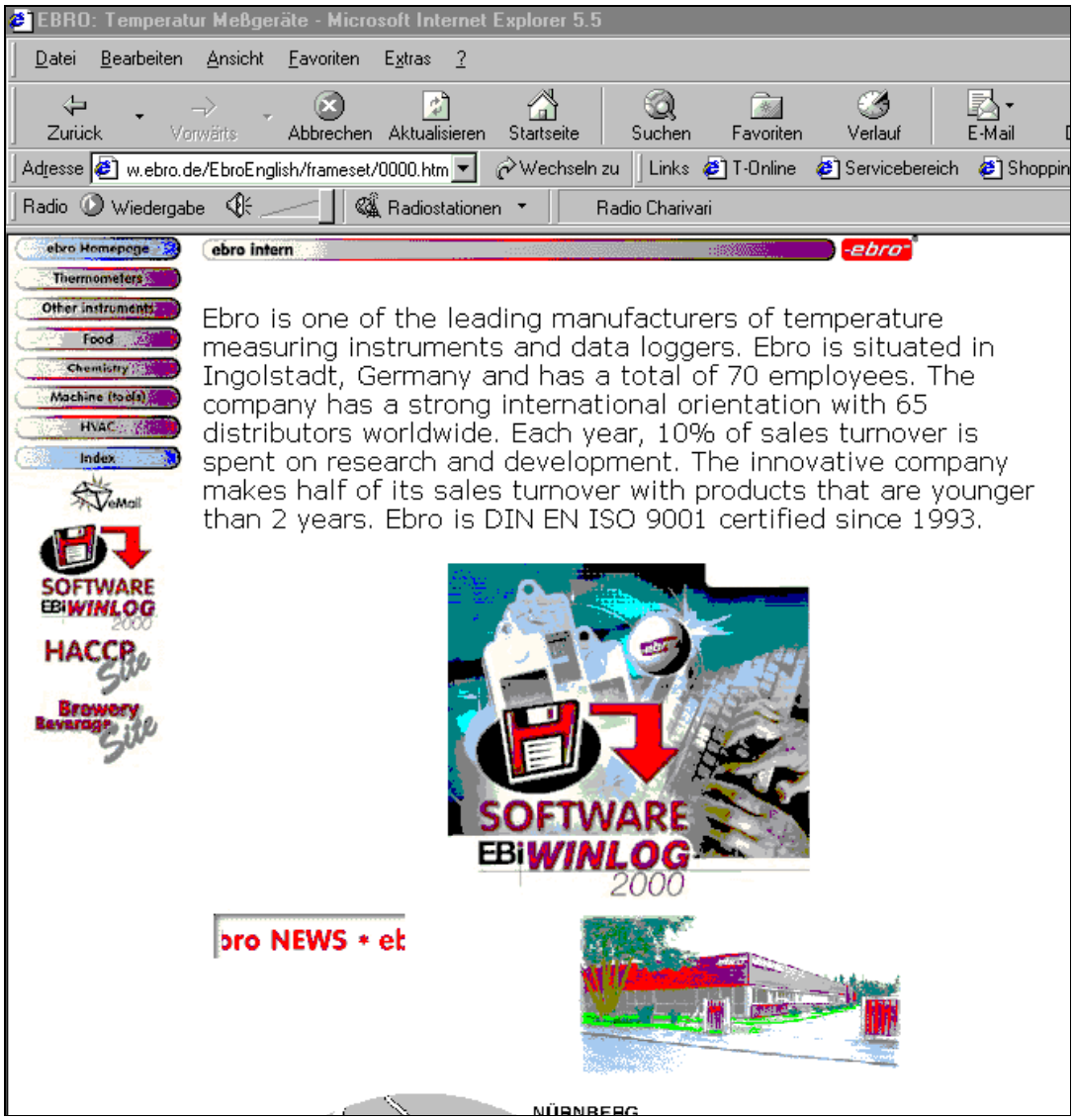

EBRO: Temperatur Meßgeräte - Microsoft Internet Explorer 5.5
Datei Bearbeiten Ansicht Favoriten Extras ?
Zurück Vorwärts Abbrechen Aktualisieren Startseite Suchen Favoriten Verlauf E-Mail
Adresse w.ebro.de/EbroEnglish/frameset/0000.htm Wechseln zu Links T-Online Servicebereich Shoppin
Radio Wiedergabe Radiostationen Radio Charivari
ebro Homepage
Thermometers
Other instruments
Food
Chemistry
Machine (tools)
HVAC
Index
eMail
SOFTWARE
EBiWINLOG 2000
HACCP Site
Browery Beverage Site
ebro intern
Ebro is one of the leading manufacturers of temperature measuring instruments and data loggers. Ebro is situated in Ingolstadt, Germany and has a total of 70 employees. The company has a strong international orientation with 65 distributors worldwide. Each year, 10% of sales turnover is spent on research and development. The innovative company makes half of its sales turnover with products that are younger than 2 years. Ebro is DIN EN ISO 9001 certified since 1993.
SOFTWARE
EBiWINLOG 2000
bro NEWS • eb
NÜRNBERG

Fig.249 Update: Homepage of **ebro**, *1st page*

On this first page, you can look at either our products, services or n ews.

12.2.2 Selection of the Software section

Fig. 250 Update: Software button

With a **<LMC>** on ***Software***, you enter the website section where you can download updates for *WINLOG 2000*, templates or patches (as far as they are available) free of charge.

Simply follow the instructions.

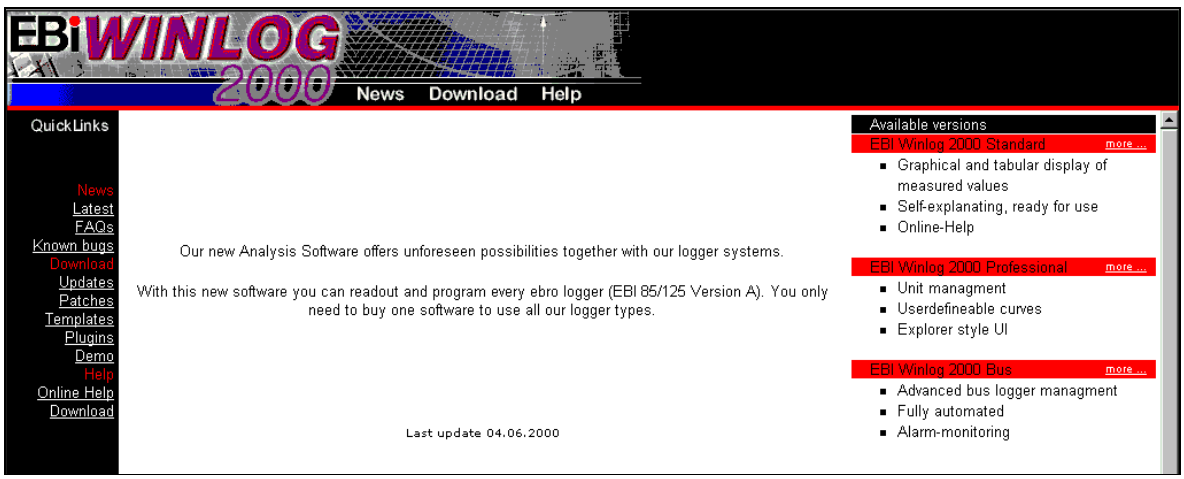


Fig.251 Update: Homepage Header page

On this first page for the EBI WINLOG software, you can select different possibilities on the left side with a mouse-click.

These are explained in the following sections.

12.2.3 News

12.2.3.1 Latest news

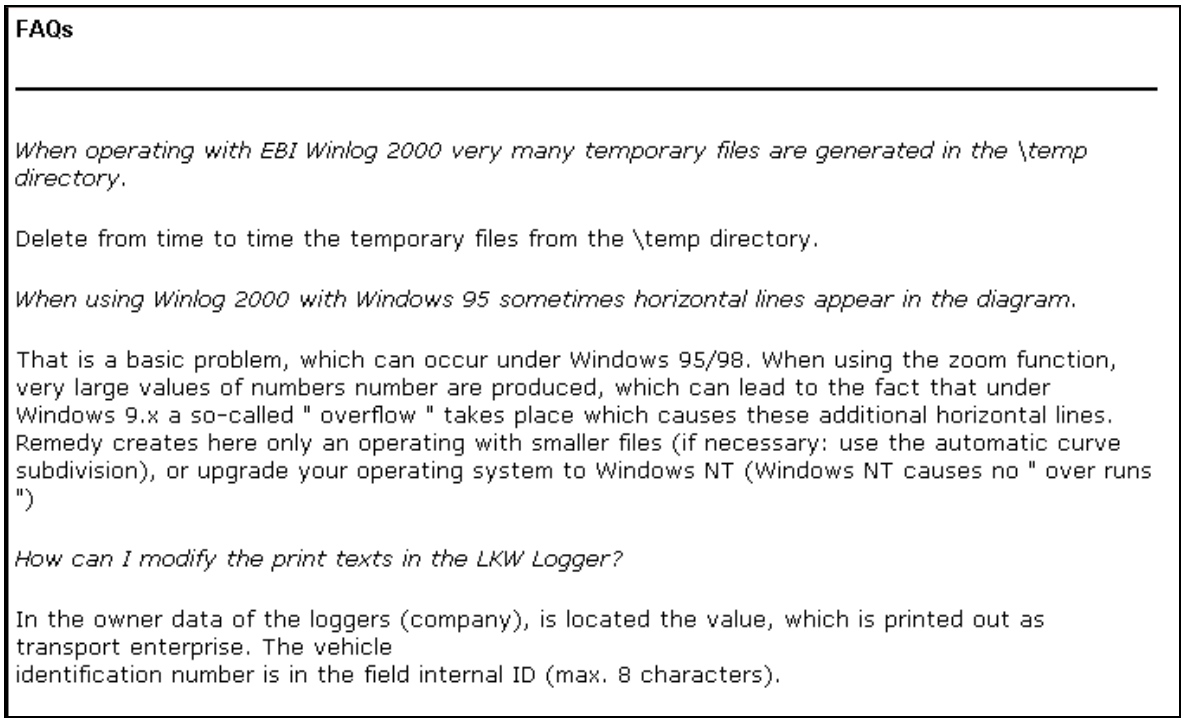
News
04.06.2000
Release 1.1 is ready for download. Take a look at the Update-Section for further details.
25.01.2000
The online help does not work on some computers. To overcome this problem we publish the online help on our website. You can use the help either online or you can download the help file (Zipfile).
18.01.2000
Release 1.03 is ready for download. Take a look at the Update-Section for further details.
15.12.1999
Release 1.02 is ready for download. Take a look at the Update-Section for further details.
6.12.1999
The Plugin Page is online. We provide this page to support you with some usefull plugins for your EBI Winlog 2000.

Fig.252 Update: Latest news

In this section you will find, in chronologic order, a list of what has been changed and which changes have been made.

This list is updated if required.

12.2.3.2 Frequently asked questions (FAQ)



FAQs

When operating with EBI Winlog 2000 very many temporary files are generated in the \temp directory.

Delete from time to time the temporary files from the \temp directory.

When using Winlog 2000 with Windows 95 sometimes horizontal lines appear in the diagram.

That is a basic problem, which can occur under Windows 95/98. When using the zoom function, very large values of numbers number are produced, which can lead to the fact that under Windows 9.x a so-called " overflow " takes place which causes these additional horizontal lines. Remedy creates here only an operating with smaller files (if necessary: use the automatic curve subdivision), or upgrade your operating system to Windows NT (Windows NT causes no " over runs ")

How can I modify the print texts in the LKW Logger?

In the owner data of the loggers (company), is located the value, which is printed out as transport enterprise. The vehicle
identification number is in the field internal ID (max. 8 characters).

Fig.253 Update: FAQ's

Here you can read so-called frequently asked questions (FAQ's) and their answers listed in an informal order.

Read here if you have problems. Often, the solution can already be found here.

12.2.3.3 Known bugs in *WINLOG 2000*

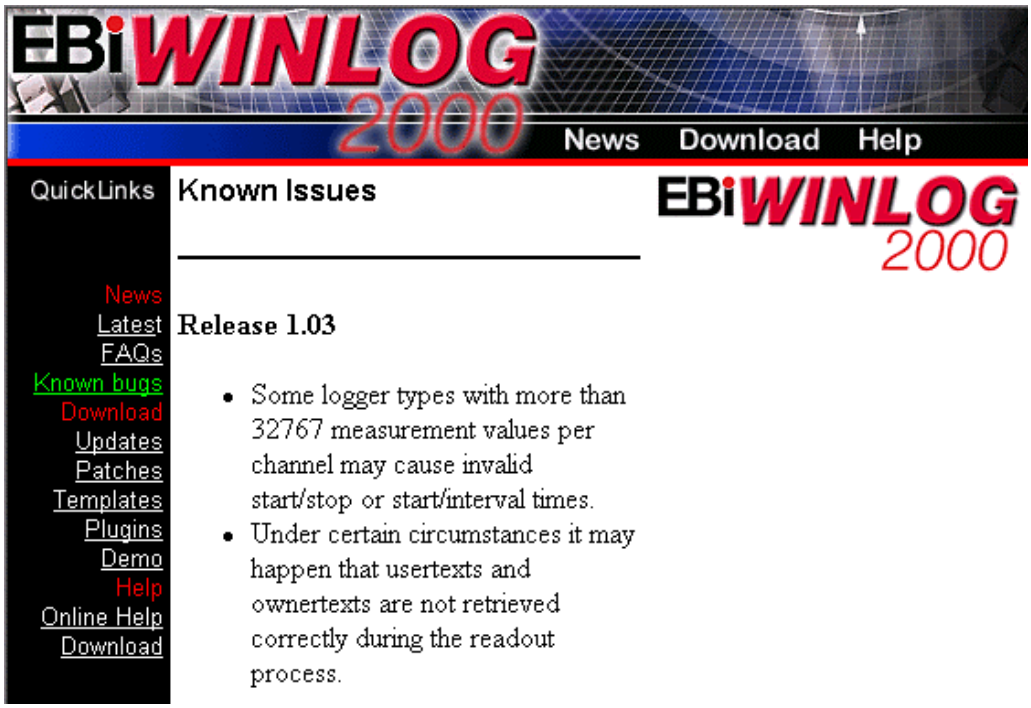


Fig.254 Update: Known errors in WINLOG

This is a list containing the errors which can occur in the different software versions.

12.2.4 Downloads

12.2.4.1 Updates

In order to reduce your download times, all updates have been splitted in two parts. First download the language version which corresponds to your country, and then the core -update.

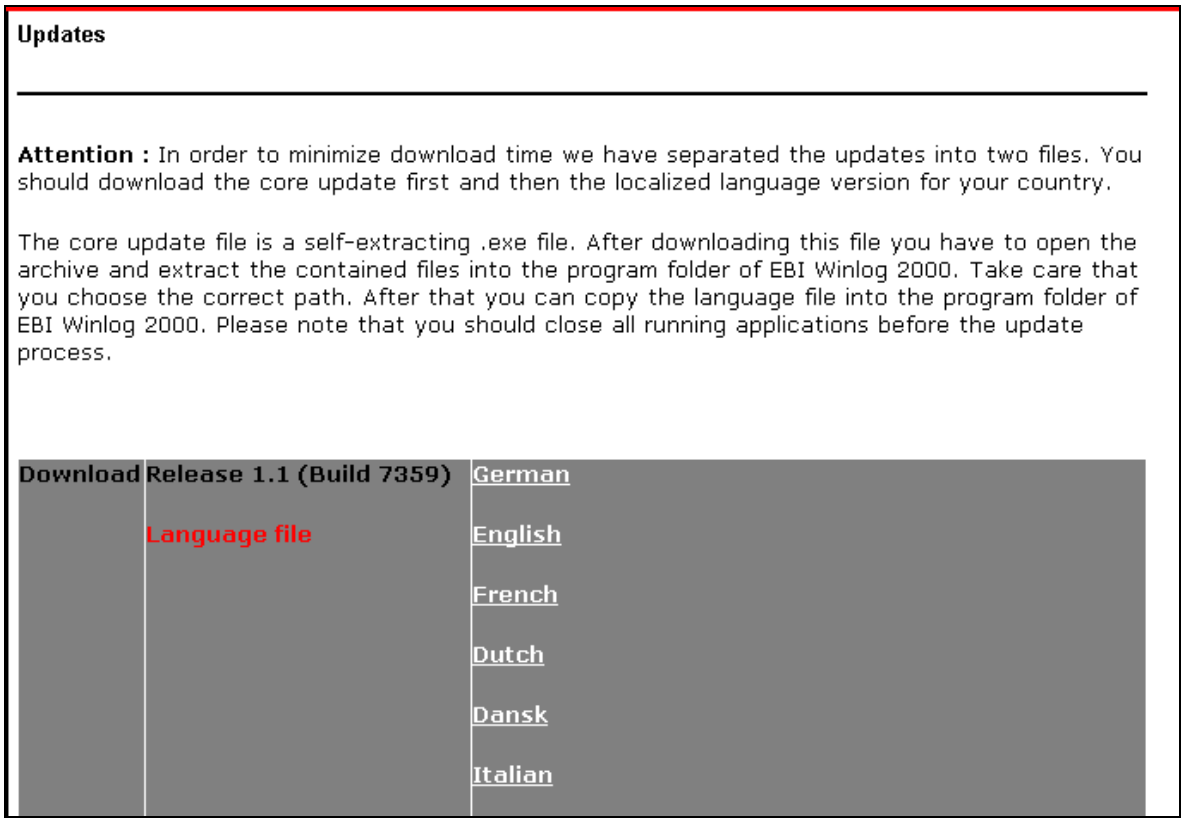

Updates
Attention : In order to minimize download time we have separated the updates into two files. You should download the core update first and then the localized language version for your country.
The core update file is a self-extracting .exe file. After downloading this file you have to open the archive and extract the contained files into the program folder of EBI Winlog 2000. Take care that you choose the correct path. After that you can copy the language file into the program folder of EBI Winlog 2000. Please note that you should close all running applications before the update process.
Download
Release 1.1 (Build 7359)
Language file
German
English
French
Dutch
Dansk
Italian

Fig.255 Update: Download language file

Click on the corresponding language version, in order to start the download.

When you have saved the language file on your PC, scroll downward in "*Fig.255 Update: Download language file*". You obtain the following figure:

Download (~1.5 MB)	**Release 1.1 (Build 7359)** **Core update**	**Standard/Profession/Bus Version**

Fig.256 Update: Download core update

Click on Download, the core update is downloaded on your PC.

The core update consists of a self-extracting .exe file.
After the download, call this file. It automatically extracts the herein contained files into the program directory of *WINLOG 2000*.

Then copy the language file into the program directory of *WINLOG 2000*.

Please note that you should first close all the other applications.

12.2.4.2 Patches

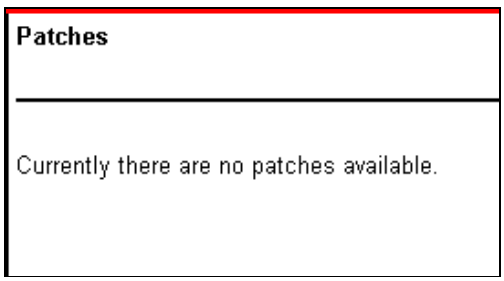


Fig.257 Update: Patches

If any patches are available, you can download them on your PC and have them carry out automatic changes to *WINLOG 2000*.

12.2.4.3 Plug-ins

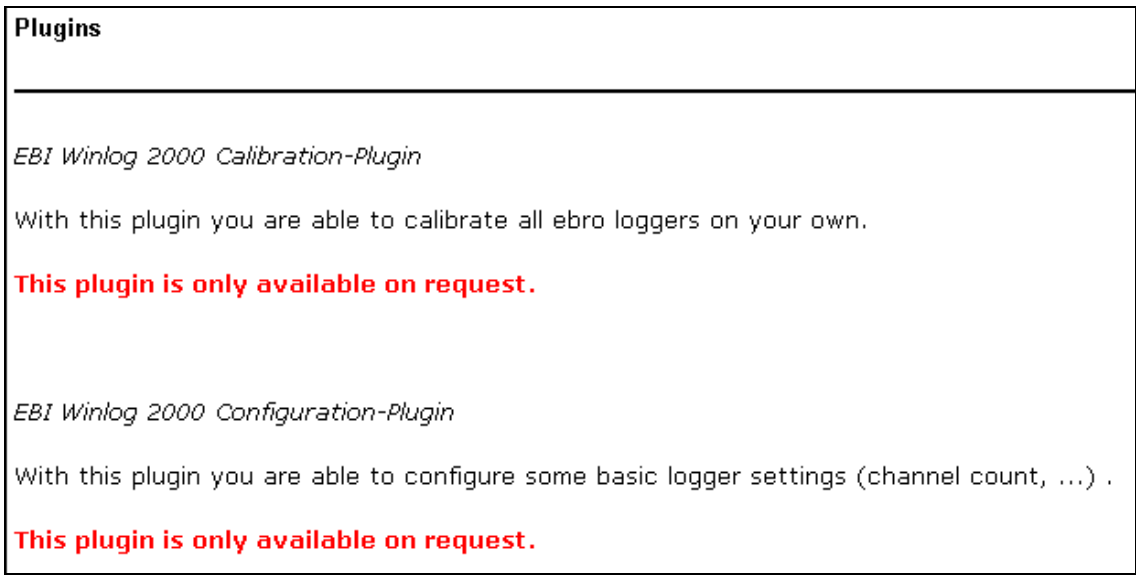

Plugins
EBI Winlog 2000 Calibration-Plugin
With this plugin you are able to calibrate all ebro loggers on your own.
This plugin is only available on request.
EBI Winlog 2000 Configuration-Plugin
With this plugin you are able to configure some basic logger settings (channel count, ...) .
This plugin is only available on request.

Fig.258 Update: Plug-ins

If there are so-called plug-ins (small additional programs) available for *WINLOG 2000*, you can download them from here.

The plug-in is copied to the *WINLOG 2000* – Subdirectory \TOOLS.

12.2.4.4 Demonstration version of *WINLOG 2000*

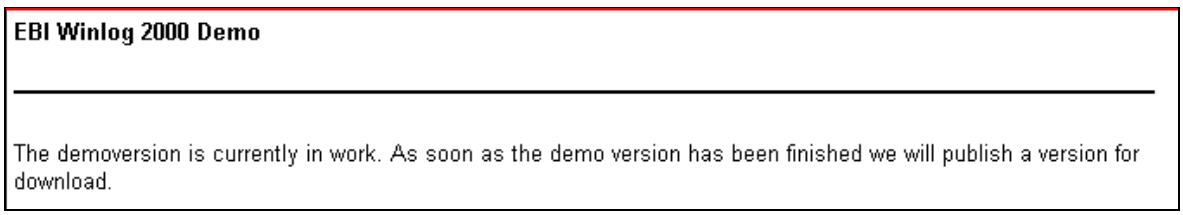

EBI Winlog 2000 Demo
The demoversion is currently in work. As soon as the demo version has been finished we will publish a version for download.

Fig.259 Update: Demonstration version

At present, no demonstration version has been finished yet.

However, if you want to use a demonstration version, you can take the normal *WINLOG 2000*. With this software, a registration is required 30 days after the installation.

So, everyone can work with a full version for 30 days without registration. When this time has elapsed, the software cannot be called any more.

12.2.5 Help

12.2.5.1 Online help

If in "*Fig.251 Update: Homepage Header page*" you have clicked on the function ***Help – Online help***, you obtain the display of the help for *WINLOG 2000* on the screen.

With a click on the General on the left side of the screen, you obtain the desired information in the right field.

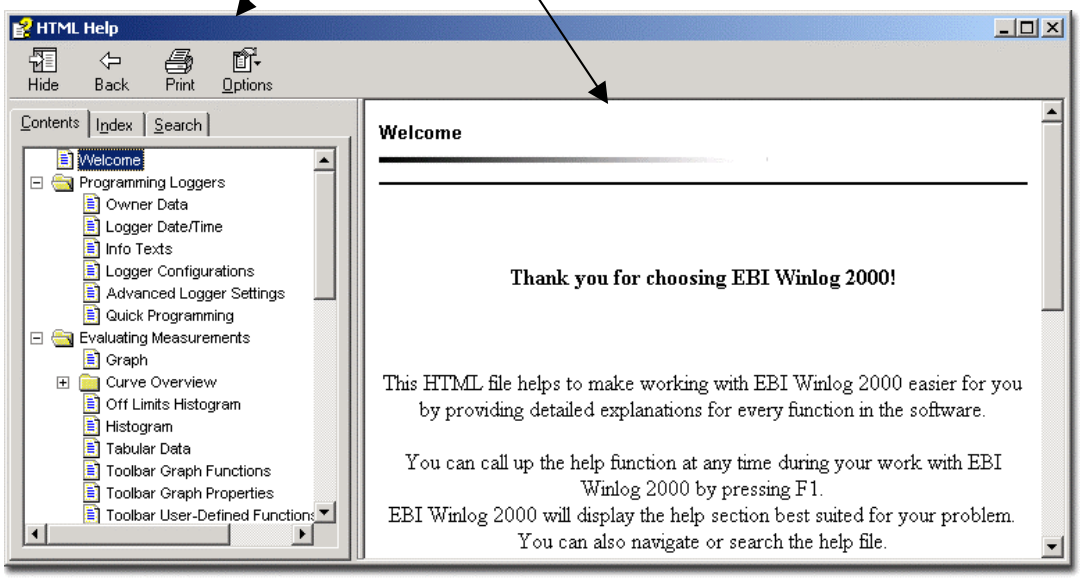
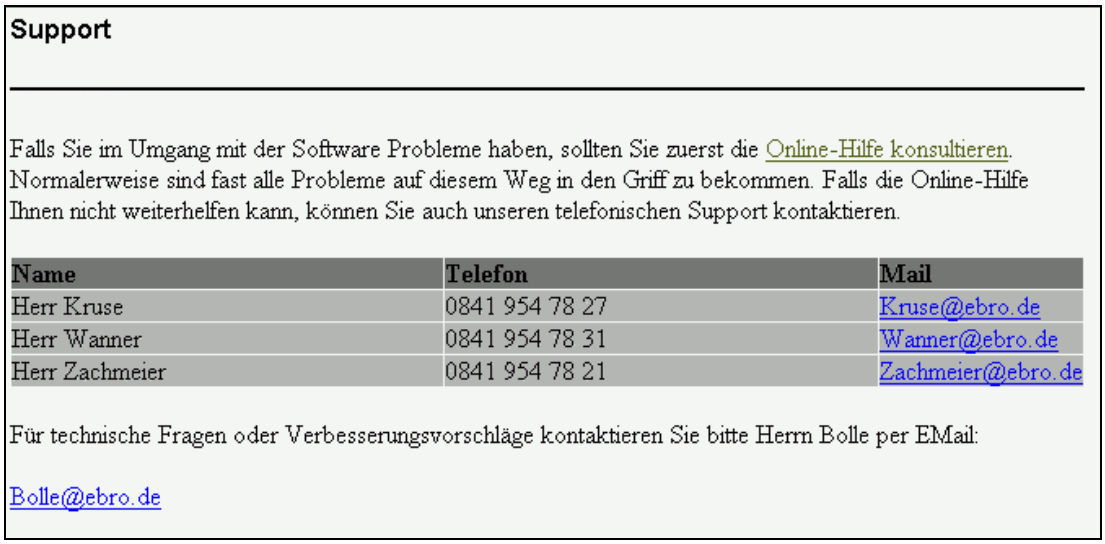


Fig.260 Update: On-line help

12.2.5.2 Support

In this section you will find a contact partner at ***ebro***, if you have problems with *WINLOG 2000*.

Before calling, please look for for a possible solution as described in chapters 11.2.3.2 and 11.2.3.3.



Support

Falls Sie im Umgang mit der Software Probleme haben, sollten Sie zuerst die Online-Hilfe konsultieren. Normalerweise sind fast alle Probleme auf diesem Weg in den Griff zu bekommen. Falls die Online-Hilfe Ihnen nicht weiterhelfen kann, können Sie auch unseren telefonischen Support kontaktieren.

Name	Telefon	Mail
Herr Kruse	0841 954 78 27	Kruse@ebro.de
Herr Wanner	0841 954 78 31	Wanner@ebro.de
Herr Zachmeier	0841 954 78 21	Zachmeier@ebro.de

Für technische Fragen oder Verbesserungsvorschläge kontaktieren Sie bitte Herrn Bolle per EMail:

Bolle@ebro.de

Fig.261 Update: Support by ***ebro***

12.2.5.3 Tips and tricks

Under Construction.

In this section we will be publishing tips and tricks, which are not included yet in the Tips and Tricks in *WINLOG 2000*.

12.3 *ebro* hotline

If you have problems with the *WINLOG 2000* software or with loggers, you are welcome to use our hotline during the general office hours.

The telephone number is +49 841-95478-0. This is our telephone exchange, from where you will be put through to a competent person. See also chapter 12.2.5.2.

However, before contacting ***ebro***, please check your software and hardware installation of the system one more time.

If you still have no success, tell us your problem. Describe your problem to our hotline with the following indications.

- Computer configuration (e.g. Pentium III, 800 x 600 pixels etc.)
- Your operating system (e.g. Windows 95 C)
- The version number of *WINLOG 2000* (see chapter 5.5)
- Your problem

13 License agreement

END-USER LICENSE AGREEMENT FOR ***ebro*** SOFTWARE
WINLOG 2000

IMPORTANT - PLEASE READ CAREFULLY!

This End-User License Agreement is a valid agreement between yourself (either as a natural or a juridical person) and ***ebro*** Electronic GmbH & Co. KG for the above-mentioned ***ebro*** software product.

The software product comprises computer software as well as possible accompanying media, printed material and documentation in the "on-line" or electronic format ("SOFTWARE PRODUCT").

By installing, copying or using the SOFTWARE PRODUCT in a different way, you agree to be bound by the regulations of the license agreement.

If you do not agree with the regulations of this license agreement, you are not authorized to install or to use the SOFTWARE PRODUCT. However, you can return it, with restitution of the purchase price, to the distributor from whom you have bought it.

PRODUCT LICENSE

§ 1 *WINLOG 2000* Software

1. The WINLOG 2000 software is licensed to the user. The WINLOG 2000 software is used for the readout and the programming of EBI data loggers.
2. The software package consists of a data carrier (CD-ROM).
3. The computer software is protected by copyright (§§ 69 a ff. UrhRG).

§ 2 Extent of use, reproduction, access protection

1. The software package authorizes the use of the *WINLOG 2000* software on one workstation. The use of the software on several hardware configurations at the same time makes it necessary to buy a corresponding number of software packages.
2. The user is allowed to reproduce the software, as far as the respective reproduction is necessary for the use of the software, e.g. the installation of the software from the original data carrier onto the bulk memory of the hardware used, the downloading of the software into the working storage.
3. Beyond this, the user is allowed to make one copy for backup purposes only. However, he may make and store only one backup copy each. This backup copy must be marked as such.
4. The user is obliged to prevent unauthorized access to the software by third parties, by using appropriate precautions.
   The original data carriers delivered as well as the backup copies must be kept at a safe place protected against unauthorized access of third parties.
5. The user must not make further reproductions of the software package.

§ 3 Use in a network

1. The user may use the software on any hardware available to him. If the user changes the hardware, he must erase the software on the hardware used until then, in order to ensure the use on one hardware configuration. A simultaneous storing, keeping on stock or using of more than only one hardware is inadmissible.

2. The use of the purchased software within a network or any other multi-station computer system is allowed, if and as far as the possibility of simultaneous multiple use of the software is prevented.
   If the user wants to use the software within a network or any other multi-station computer system, he must prevent a simultaneous multiple use by means of access protection mechanisms or purchase a corresponding network version of the software package.

§ 4 Recompiling, software changes

1. The recompiling of the purchased software code into other code forms as well as other types of going back to the different production levels of the software including a software change are generally not allowed.

2. Copyright marks, serial numbers as well as other marks serving as a software identification must in no case be removed or modified.

§ 5 Passing on to others

1. The user may transfer the software to a third party, if the buying third party agrees on the continuation of the present contract conditions, also in the relation between himself and ***ebro*** Electronic GmbH & Co. KG.
   In case of passing on the software, the user must hand over all software copies including possibly existing backup copies to the new user, or destroy the copies not handed over.

   In case of passing on, the right of the old user to use the software expires.

   The user will communicate the name and the complete address of the user in writing to the selling party.

2. The user may leave the software to a third party for a period of time, if the third party agrees on the continuation of the present contract conditions between himself and ***ebro*** Electronic GmbH & Co. KG, and the leaving user hands over all software copies including possibly existing backup copies to the third party, or destroys the copies not handed over.

   During the time of leaving the software to the third party, the leaving user has no right to use the software himself.

§ 6 Warranty

1. Defects of the delivered software will be eliminated by the vendor after a corresponding notification from the user. This is done only by repair or compensation delivery, depending on the choice of the supplier.

2. If the vendor is not willing or not capable of repair or compensation delivery, then the buyer has the right to claim alteration or reduction. The claim for damages is excluded. In case of alteration, the user must return the *WINLOG 2000* software to the vendor, and erase it, if it has been installed on the hardware of the user.

3. The vendor is liable for damages due to legal incorrectness, especially those due to violations of copyrights of third parties. The vendor is not liable for damages which have not occurred on the delivered software itself; nor does he accept any liability for data loss or any other subsequent damages.

4. The liability of the vendor is limited to intention and great negligence; as far as there is an obligation for compensating the damages, it is limited to damages occurring typically.

5. Later modification wishes of the user regarding the extent of functions or other features of the software need not be considered by the vendor.

§ 7 Obligation of examination and claim

1. The user will examine the delivered software within 18 working days after delivery, in particular with regard to the operativeness of fundamental software functions.

2. Defects, which are hereby identified or which are detectable, must be communicated to the vendor within 5 working days (giving a detailed description of the defects).

3. Defects, which are not detectable in the scope of the described regular examination, must be claimed within 5 working days after discovery, giving a detailed description of the defects.

§ 8 Other things

1. The user has rights of settling the accounts with regard to the vendor, only if his counter-claim is legal or uncontested.

2. All agreements which contain a modification, supplement or realization of these contract conditions, as well as special promises and arrangements, must be made in writing.

3. Competency of court for all disputes arising in relation with this agreement is Ingolstadt, if the user is a tradesman.

4. The vendor reserves the property of the software delivered to the user, until its complete payment.

5. If individual regulations of this agreement should be or become ineffective, the validity of the remaining regulations will thereby not be affected. In this case, the invalid regulation must be replaced with a valid regulation, which corresponds to or approaches best the intention and purpose of the invalid regulation.
   The same applies, if a deficiency that requires completion appears during the execution of this agreement.

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15 Technical data of loggers

15.1 Standard loggers

Logger type	Chan-nels	Sensor	Measuring range of sensor	Temperature range of logger	Measur. accu-racy
EBI-85	1	internal	-40°C ... +85°C	-40°C ... +85°C	± 0.3°C
EBI-85 E	1	external	-50°C ... +400°C	-40°C ... +85°C	± 0.5°C
EBI-85 ES	1	external	-50°C ... +150°C	-40°C ... +85°C	± 0.3°C
EBI-85 EM	1	external	-40°C ... +85°C	-40°C ... +85°C	± 0.3°C
EBI-85 OE	1	internal	-40°C ... +85°C	-40°C ... +85°C	± 0.3°C
EBI-125	1	internal	-40°C ...+125°C	-40°C ... +125°C	± 0.3°C
EBI-125 E	1	external	-50°C ... +400°C	-40°C ... +125°C	± 0.5°C
EBI-125 ES	1	external	-50°C ... +150°C	-40°C ... +125°C	± 0.3°C
EBI-125 EM	1	external	-40°C ...+125°C	-40°C ... +125°C	± 0.3°C
EBI-125 ER	1	external	-40°C ...+125°C	-40°C ... +125°C	± 0.3°C
EBI-125 OE	1	internal	-40°C ...+125°C	-40°C ... +125°C	± 0.3°C
EBI-125 EL	1	external	-50°C ...+125°C	-40°C ... +125°C	± 0.3°C

Logger type	Chan-nels	Sensor	Measuring range of sensor	Temperature range of logger	Measur. accu-racy
EBI-85A	1	internal	-40°C ... +85°C	-40°C ... +85°C	± 0.3°C
EBI-85A E	1	external	-50C ... +400°C	-40°C ... +85°C	± 0.5°C
EBI-85A ES	1	external	-50°C ... +150°C	-40°C ... +85°C	± 0.3°C
EBI-85A EM	1	external	-40°C ... +85°C	-40°C ... +85°C	± 0.3°C
EBI-85A OE	1	internal	-40°C ... +85°C	-40°C ... +85°C	± 0.3°C
EBI-125A	1	internal	-40°C ...+125°C	-40°C ... +125°C	± 0.3°C
EBI-125A E	1	external	-50C ... +400°C	-40°C ... +125°C	± 0.5°C
EBI-125A ES	1	external	-50C ... +150°C	-40°C ... +125°C	± 0.3°C
EBI-125A EM	1	external	-40°C ...+125°C	-40°C ... +125°C	± 0.3°C
EBI-125A ER	1	external	-40°C ...+125°C	-40°C ... +125°C	± 0.3°C
EBI-125A OE	1	internal	-40°C ...+125°C	-40°C ... +125°C	± 0.3°C
EBI-125A EL	1	external	-40°C ...+125°C	-40°C ... +125°C	± 0.3°C
EBI-85A EM-xxx-6	1	internal	-40°C ... +85°C	-40°C ... +85°C	± 0.3°C
EBI-125A EM-xxx-6	1	internal	-40°C ...+125°C	-40°C ... +125°C	± 0.3°C
EBI-85A -Ex	1	internal	-20°C ... +60°C	-20°C ... +60°C	± 0.3°C

Logger type	Chan-nels	Sensor	Measuring range of sensor	Temperature range of logger	Measur. accuracy
EBI-85A -PT-S-2	2	internal	-40°C ... +85°C 0...2 bar	-40°C ... +85°C 0...2 bar	± 0.3°C ±10 mbar
EBI-85A -PT-S-5	2	internal	-40°C ... +85°C 0...5 bar	-40°C ... +85°C 0...5 bar	± 0.3°C ±25 mbar
EBI-125A -PT-AK-5	2	internal	-40°C ... +125°C 0...5 bar	-40°C ... +125°C 0...5 bar	± 0.3°C ±25 mbar
EBI-85A -PT-Ex	2	internal	-20°C ... +60°C 0...5 bar	-20°C ... +60°C 0...5 bar	± 0.3°C ±25 mbar

15.2 RS 232 loggers

Logger type	Chan-nels	Sensor	Measuring range of sensor	Temperature range of logger	Measuring accuracy
EBI-2-T-F	1	internal	-40°C... +75°C	-40°C...+75°C	± 0.5°C
EBI -2T-112	1	internal	-40°C... +75°C	-40°C...+75°C	± 0.5°C
EBI -2T-211	2	Internal external	-40°C... +75°C -50°C...+150°C	-40°C...+75°C	± 0.3°C
EBI -2T-311	1	external	-50°C...+150°C	-40°C...+75°C	± 0.3°C
EBI -2T-312	2	external	-50°C...+150°C	-40°C...+75°C	± 0.3°C
EBI -2T-313	4	external	-50°C...+150°C	-40°C...+75°C	± 0.3°C

EBI -2T-511	1	internal	-40°C... +75°C	-40°C...+75°C	± 0.4°C
EBI -2T-512	1	external	-40°C... +75°C	-40°C...+75°C	± 0.4°C
EBI -2T-513	2	external	-40°C... +75°C	-40°C...+75°C	± 0.3°C
EBI -2T-514	4	external	-40°C... +75°C	-40°C...+75°C	± 0.4°C

EBI-3	1	internal	-40°C... +40°C	-40°C...+75°C	± 0.5°C

Logger type	Chan-nels	Sensor	Measuring range of sensor	Temperature range of logger	Measuring accuracy
EBI-2TH-611	2	internal	-40°C... +75°C 0...100% RH	-40°C...+75°C	± 0.5°C ± 2% RH
EBI-2TH-612	2	external	-40°C... +75°C 0...100% RH	-40°C...+75°C	± 0.5°C ± 2% RH

15.3 BUS loggers

Logger type	Chan-nels	Sensor	Measuring range of sensor	Temperature range of logger	Measuring accuracy
EBI-2-BUS-721-INT	1	internal	-40°C... +75°C	-40°C...+75°C	± 0.3°C
EBI-2-BUS-721-EXT	1	external	-40°C...+150°C	-40°C...+75°C	± 0.3°C
EBI-2-BUS-722-INT/EXT	2	Internal external	-40°C... +75°C -40°C...+150°C	-40°C...+75°C	± 0.3°C
EBI-2-BUS-722-EXT/EXT	2	External external	-40°C...+150°C	-40°C...+75°C	± 0.3°C
EBI-2-BUS-723-INT	1	internal	-40°C... +75°C	-40°C...+75°C	± 0.3°C
EBI-2-BUS-723-EXT	1	external	-40°C...+150°C	-40°C...+75°C	± 0.3°C
EBI-2-BUS-724-INT/EXT	2	Internal external	-40°C... +75°C -40°C...+150°C	-40°C...+75°C	± 0.3°C
EBI-2-BUS-724-EXT/EXT	2	External external	-40°C...+150°C -40°C...+150°C	-40°C...+75°C	± 0.3°C

Logger type	Chan-nels	Sensor	Measuring range of sensor	Temperature range of logger	Measur. accuracy
EBI-2T-725	2	Internal external	-40°C... +75°C -40°C...+150°C	-40°C...+75°C	± 0.3°C
EBI-2T-726	1	external	-40°C...+150°C	-40°C...+75°C	± 0.3°C
EBI-2T-727	2	2x external	-40°C...+150°C	-40°C...+75°C	± 0.3°C
EBI-2T-728	4	4x external	-40°C...+150°C	-40°C...+75°C	± 0.3°C
EBI-2T-729	1	internal	-40°C... +75°C	-40°C...+75°C	± 0.3°C

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